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Technical Report 32-1213

Static Aerodynamic Characteristics of Blunted Cones in the Mach-Number Range from 2.2 to 9.5

Billy Walker
Robert W. Weaver

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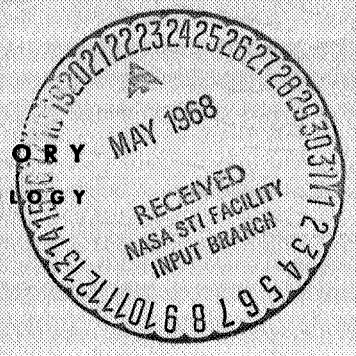

JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA

December 1, 1967

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Static Aerodynamic Characteristics of Blunted Cones in the Mach-Number Range from 2.2 to 9.5

Billy Walker
Robert W. Weaver

Approved by:

E. A. Laumann, *Manager*
Aerodynamic Facilities Section

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Abstract

An experimental investigation of the effects of shape parameters on blunted-cone aerodynamic characteristics was conducted in the JPL wind tunnels. The varied parameters were cone half-angle, nose radius, and edge radius. The test conditions which were varied were Mach number and Reynolds number. This report presents a summary of the results in the form of axial-force coefficient, normal-force coefficient slope, and center-of-pressure location, all at zero angle of attack. A complete set of all data plotted vs angle of attack is included in this report.

Static Aerodynamic Characteristics of Blunted Cones in the Mach-Number Range from 2.2 to 9.5

I. Introduction

The blunted-cone configuration has received considerable attention as a shape potentially suitable for probing planetary atmospheres. It tends to exhibit very high drag characteristics, reasonable stability characteristics and, in theory, tends to minimize the entry heat pulse. The optimization of these characteristics, together with structural and payload requirements for any given entry mission, however, requires trade-offs. Since theoretical aerodynamic methods have not been developed to the accuracy necessary for trade-off studies, a wind tunnel test program was conducted in the Jet Propulsion Laboratory (JPL) Wind Tunnels to obtain the significant parameters required. As a part of this continuing program, the aerodynamic static stability characteristics of a series of blunted cones were investigated in the supersonic and hypersonic flight regions. The results are presented in this report.

A second, but by no means unimportant, reason for conducting this test program was to supply empirical data for the many theoretical analyses that are being conducted. The data resulting from this test program may be used to verify theoretical calculations. The data presented in this report are a summary of the significant aerodynamic parameters required to evaluate the effects of the shape parametric variations. For this reason, most of the summarized data presented in the body of the report are for zero angle of attack only. In the Appendix, the data are presented vs angle of attack.

II. Test Description

A. Facilities

The facilities used to conduct this portion of the overall program were the JPL 20-in. supersonic and 21-in. hypersonic wind tunnels (see Ref. 1). These wind tunnels have the capabilities of continuous operation from Mach 1.3 to Mach 11.0. The tunnels can be operated over a wide range of pressures and temperatures, and thus a range of Reynolds numbers can be obtained. These capabilities were utilized in obtaining the data for this report. The tunnel parameters used are shown in Table 1.

Table 1. Average aerodynamic parameters

20-in. Tunnel:

Parameter	Mach number								
	2.2			3.0			4.0		
Re/in. × 10^{-6}	0.05	0.10	0.31	0.06	0.10	0.36	0.03	0.11	0.29
Stagnation pressure*	2.6	4.8	15.8	4.7	7.8	30.3	3.8	14.7	193.1
Dynamic pressure	0.8	1.5	4.9	0.8	1.3	5.1	0.3	1.0	3.0
Static pressure	0.24	0.45	1.48	0.13	0.21	0.82	0.03	0.09	0.12

*All pressures are in units of psi.

Table 1 (contd)

21-in. Tunnel

Parameter	Mach number											
	4.1		5.0			6.0			7.3			9.5	
Re/in. × 10^{-6}	0.10	0.26	0.05	0.10	0.26	0.02	0.11	0.29	0.03	0.11	0.26	0.04	0.11
Stagnation pressure*	14.3	35.9	15.3	30.3	77.1	14.1	70.7	192.6	34.5	155.1	442.7	125.2	568.1
Dynamic pressure	1.1	2.6	0.5	1.0	2.4	0.3	1.1	2.9	0.3	1.1	3.0	0.3	1.2
Static pressure	0.09	0.22	0.03	0.05	0.14	0.01	0.04	0.11	0.008	0.03	0.08	0.005	0.02

*All pressures are in units of psi.

B. Models

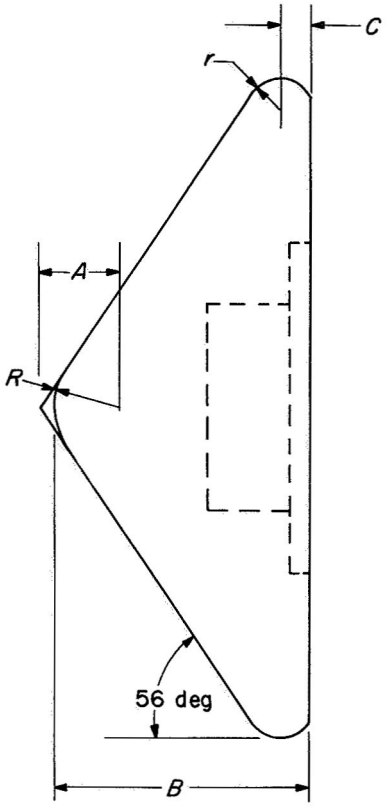
The models tested are shown in Figs. 1 through 3. In order to make a parametric study, several model shapes were generated by varying the cone half-angle, edge radius, and nose radius. The cone half-angles of the models tested were 56, 60, 65 and 70 deg, with a nose radius of 0.10 and 0.15 diameters. Edge radii of 0, 0.05, and 0.10 diameters were tested. Configuration $M_{60}N_{10}E_{05x}$ (Fig. 3) has the same dimensions as $M_{60}N_{10}E_{05}$, except that the base intersects the edge radius at the point of maximum diameter. All of the models were constructed of aluminum and had a maximum diameter of 4 in. Figure 4 shows one of the models installed in the hypersonic wind tunnel.

In addition to the data obtained in these tests, modified data from Ref. 2 are presented for comparison purposes. Configuration 60-25 of Ref. 2 is a blunt cone with a half-angle of 60 deg, nose radius of 0.125 diameters and a sharp edge. The model designations for these studies are described in the nomenclature.

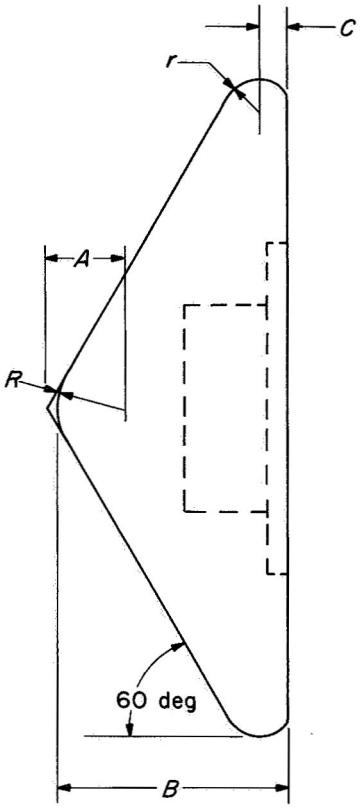
C. Test Procedures and Test Conditions

Wind-tunnel tests 20-622 and 20-641 were conducted in the 20-in. supersonic wind tunnel at Mach No. 2.2, 3.0, and 4.0 and Reynolds No./in. from 0.03 × 10^6 to 0.37 × 10^6. In the 21-in. hypersonic wind tunnel, tests 21-192 and 21-192B were conducted at Mach No. 4.1, 5.0, 6.0, 7.3, and 9.5 with Reynolds No./in. varying from 0.03 × 10^6 to 0.28 × 10^6. The angle of attack was varied from −10 to +30 deg in test 20-641 and from −1 to +28 deg in tests 20-622, 21-192, and 21-192B. Table 1 presents representative values of the test-section flow parameters for the Mach numbers at which these tests were conducted.

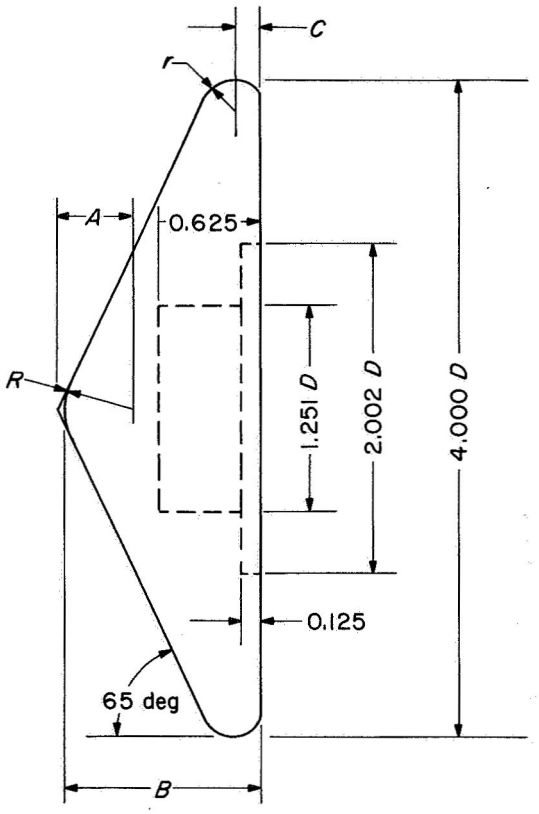
CONFIGURATION M_{56} N_{XX} E_{XX}



CONFIGURATION M_{60} N_{XX} E_{XX}



CONFIGURATION M_{65} N_{XX} E_{XX}



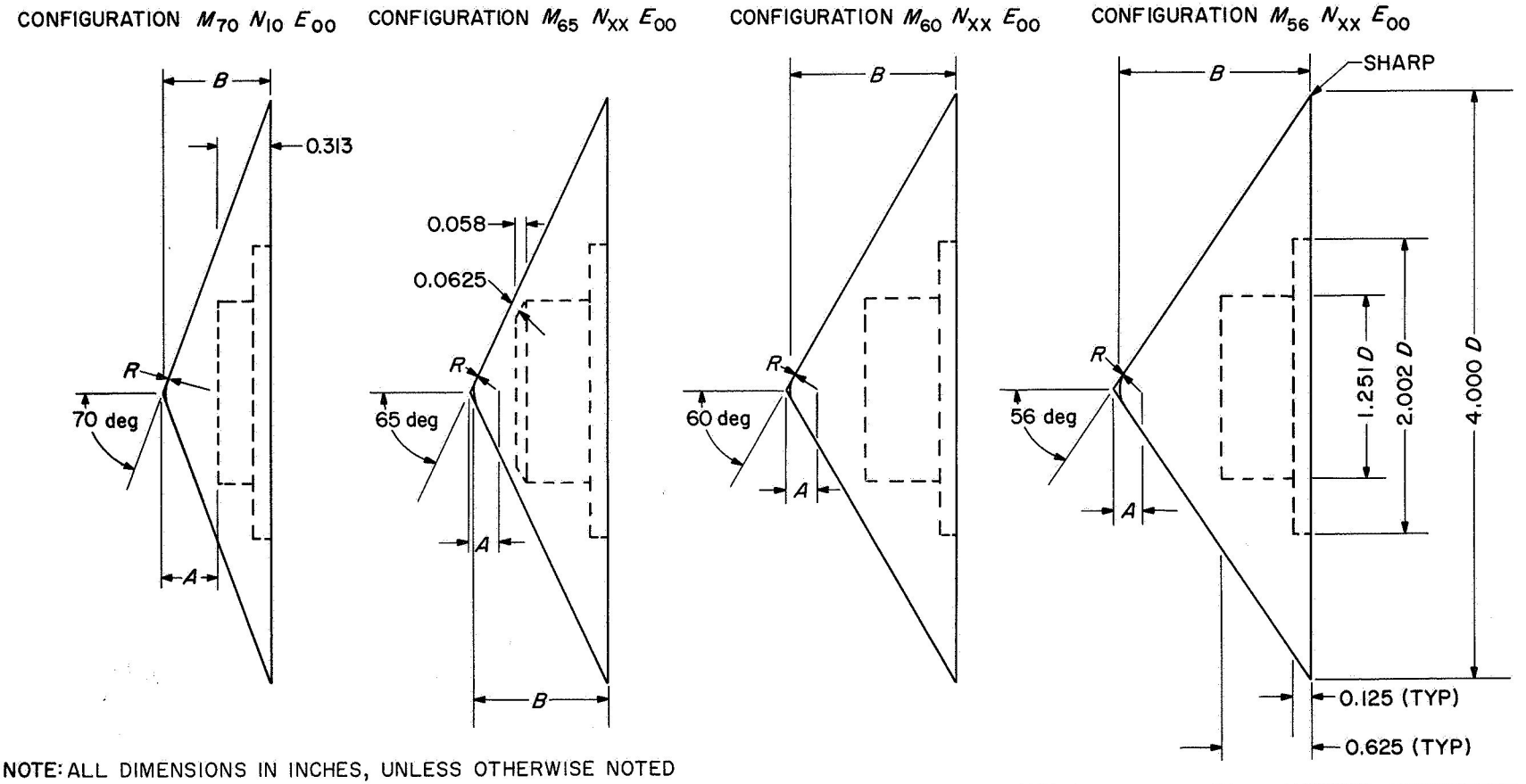
CONFIGURATION	r	R	A	B	C
M_{56} N_{10} E_{05}	0.2	0.4	0.483	1.539	0.166
M_{56} N_{15} E_{05}	0.2	0.6	0.724	1.498	0.166
M_{56} N_{10} E_{10}	0.4	0.4	0.483	1.810	0.332
M_{56} N_{15} E_{10}	0.4	0.6	0.724	1.769	0.332

CONFIGURATION	r	R	A	B	C
M_{60} N_{10} E_{05}	0.2	0.4	0.462	1.381	0.173
M_{60} N_{15} E_{05}	0.2	0.6	0.692	1.351	0.173
M_{60} N_{10} E_{10}	0.4	0.4	0.462	1.670	0.346
M_{60} N_{15} E_{10}	0.4	0.6	0.692	1.640	0.346

CONFIGURATION	r	R	A	B	C
M_{65} N_{10} E_{05}	0.2	0.4	0.442	1.199	0.181
M_{65} N_{15} E_{05}	0.2	0.6	0.662	1.179	0.181
M_{65} N_{10} E_{10}	0.4	0.4	0.442	1.509	0.363
M_{65} N_{15} E_{10}	0.4	0.6	0.662	1.489	0.363

NOTE:
ALL DIMENSIONS IN INCHES,
UNLESS OTHERWISE NOTED

Fig. 1. Rounded-edge models



NOTE: ALL DIMENSIONS IN INCHES, UNLESS OTHERWISE NOTED

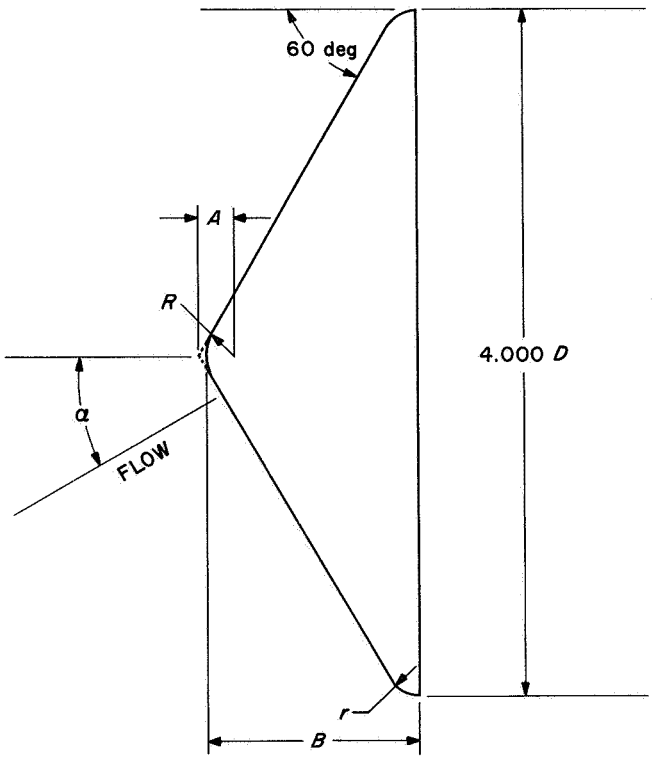
CONFIGURATION	R	A	B
M_{70} N_{10} E_{00}	0.40	0.427	0.701

CONFIGURATION	R	A	B
M_{65} N_{10} E_{00}	0.40	0.442	0.891
M_{65} N_{15} E_{00}	0.60	0.662	0.871

CONFIGURATION	R	A	B
M_{60} N_{10} E_{00}	0.40	0.462	1.093
M_{60} N_{15} E_{00}	0.60	0.692	1.063

CONFIGURATION	R	A	B
M_{56} N_{10} E_{00}	0.40	0.483	1.266
M_{56} N_{15} E_{00}	0.60	0.724	1.225

Fig. 2. Sharp-edge models



CONFIGURATION	r	R	A	B
M_{60} N_{10} E_{05x}	0.2	0.4	0.462	1.208

NOTE:
ALL DIMENSIONS IN INCHES, UNLESS OTHERWISE NOTED

Fig. 3. Configuration $M_{60}N_{10}E_{05x}$

The models were sting-mounted on a six-component internal strain-gage balance which measured normal and chord forces as well as pitching moment (Fig. 4). In addition, side force, yaw, and roll were monitored. The models were attached to the end of the balance by means of a slip-fit balance adapter, and a windshield was used to cover the exposed portion of the balance. The ratio of windshield diameter to the maximum diameter of the model was 0.281 for tests 20-622, 21-192, and 21-192B and was 0.313 for test 20-641.

Base pressure was measured by means of a single probe strapped alongside the windshield and extended to approximately 1/16 in. behind the balance adapter. Base-pressure measurements in the hypersonic tunnel at M = 9.5 were inaccurate (the base pressure at M = 9.5 is very low and is therefore difficult to measure) and were discarded.

D. Data Reduction

The data presented are the axial-force coefficient (CA),* the center-of-pressure location (X_{cp}/d) and the normal-force coefficient curve slope (C_{Na}), where

$$CA = \frac{\text{axial force}}{q\,A} \qquad C_N = \frac{\text{normal force}}{q\,A}$$

$$\frac{X_{cp}}{D} = \frac{dC_M}{dC_N} \qquad C_M = \frac{\text{pitching moment}}{q\,A\,D}$$

$$C_{Na} = \frac{dC_N}{d_a}$$

All forces and moments were reduced about the physical nose (Fig. 5). No correction to account for the differential between free-stream static pressure and base pressure was applied to the axial-force coefficient.

III. Summary of Test Results

The data presented in this report include the slope of normal-force coefficient, the center-of-pressure location, and axial-force coefficient, all at zero angle of attack. The data are shown plotted vs Mach number and in some cases are cross-plotted to show the effects of cone half-angle, edge radius, and Reynolds number. Data from Ref. 2 and modified Newtonian theory are compared with the test data. A maximum pressure coefficient, $C_{p_{max}}$, of 1.83 was used in computation of the Newtonian coefficients.

A. Axial-Force Coefficient at Zero Angle of Attack, $CA_{(\alpha=0)}$

The reference area and length for the force and moment coefficients are the model base area and diameter, respectively. All of the models had a maximum diameter of 4 in. No correction to account for the differential between free-stream static pressure and base pressure has been applied to the axial-force coefficients. The base-pressure coefficient, C_{PB}, vs Mach number is presented in Fig. 6. This curve represents an average of the base pressures measured with the maximum deviation shown on the plot. The Appendix contains a complete set of plots of base pressure vs angle of attack for several model configurations.

*All symbols used in this report are defined in the nomenclature.

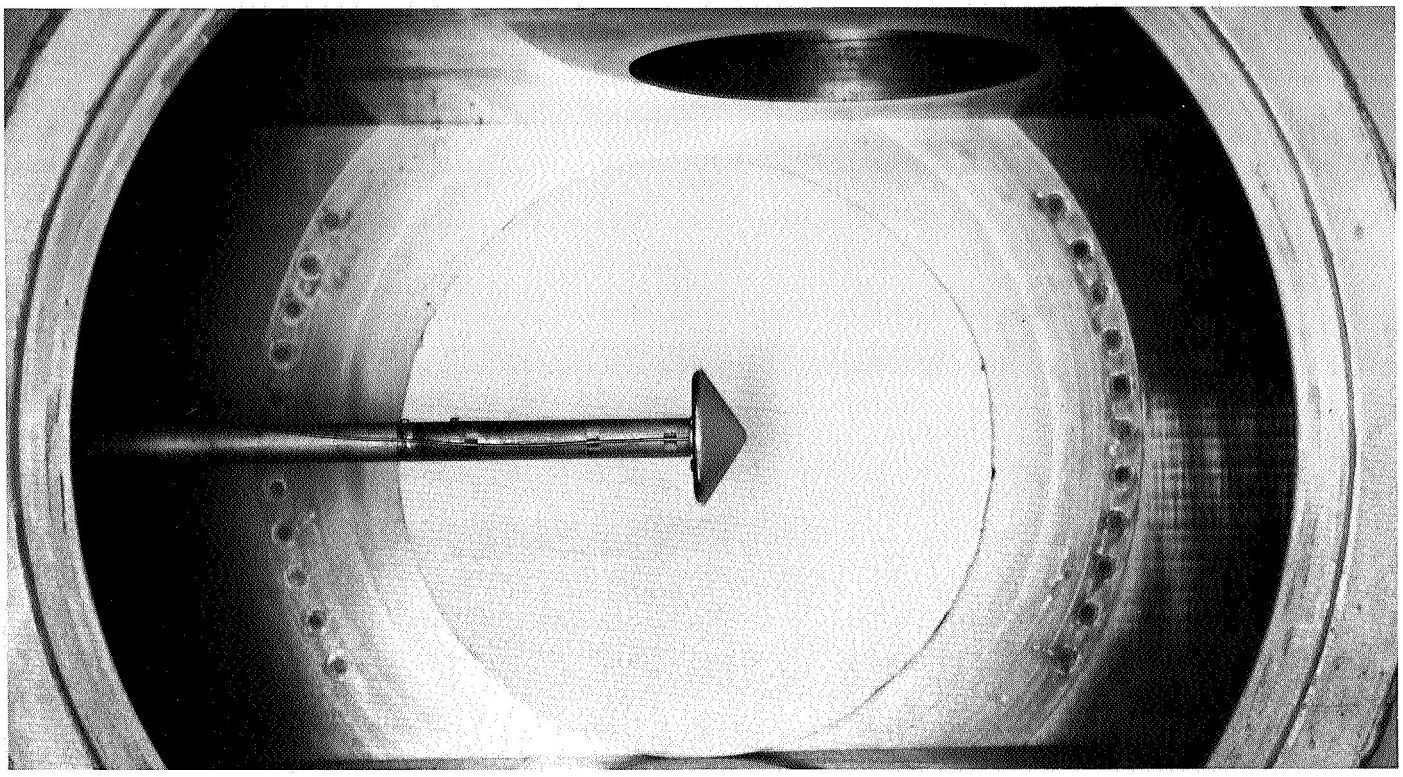


Fig. 4. Typical model installation in 21-in. hypersonic wind tunnel

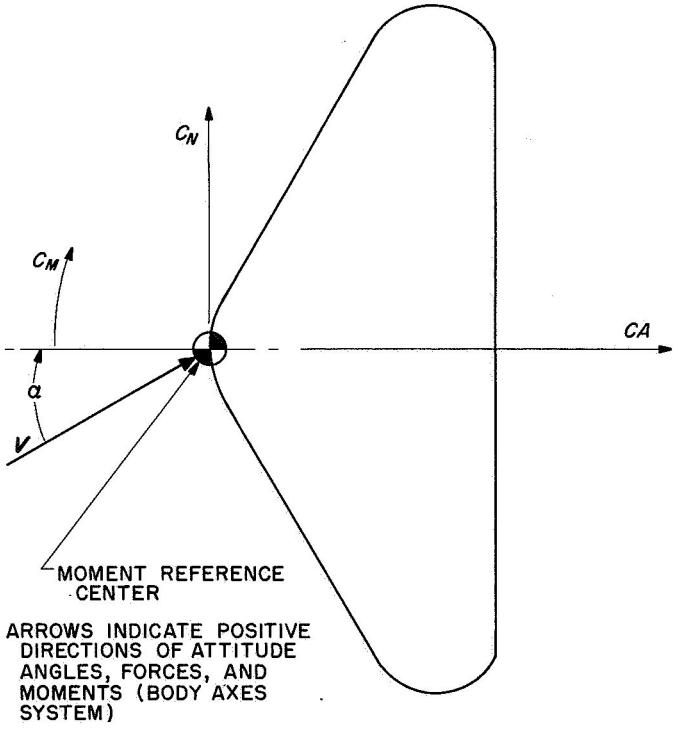


Fig. 5. Sign conventions

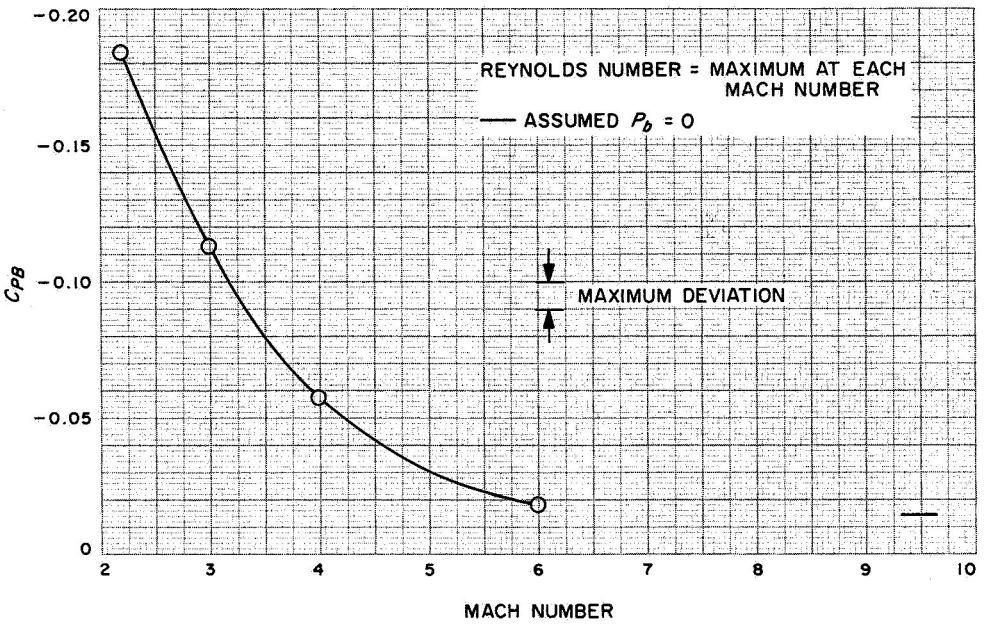


Fig. 6. Variation of the base-pressure coefficient with Mach No.

The axial-force coefficient vs angle-of-attack curves for the configurations tested assumes the shape of a parabola that opens downward with the vertex at $CA_{(\alpha=0)}$. The axial-force coefficient decreases by no more than 10% of $CA_{(\alpha=0)}$ for angles of attack less than 10 deg (see Appendix).

The data agree within 2% with unpublished data at M = 2.3 and 4.3 from Langley Research Center, Hampton, Virginia.

1. Mach number effects. Figure 7a presents the axial-force coefficient vs Mach number for the four different cone half-angles tested with a nose radius of 0.10 diameters and a sharp edge. The data show that there is only a slight Mach number effect and (as predicted by Newtonian theory) an increasing cone half-angle increases *CA*. Modified Newtonian theory underestimates *CA*, but the approximation becomes better as the cone half-angle increases. The data agree within 2½% with the data from Ref. 2 where the configurations are similar. The data from Ref. 2 used here have been modified. In order to make the data comparable to the data in this report, $(P - P_b)/q$ was added to the axial-force coefficient for Mach No. 1.65, 2.01, and 3.02. In Ref. 2, the base pressure was assumed to be zero at Mach No. 5.01 and 9.02 and therefore only P/q was added to the axial-force coefficient data for these two Mach numbers.

Figures 7b and 7c present *CA* vs Mach number for various cone angles and edge radii. The data show that as the edge radius increases the cone half-angle effect decreases.

2. Cone half-angle effects. Figure 8 is a cross-plot showing the effect of cone half-angle for several Mach numbers and three different edge radii. Figure 8a clearly shows again that *CA* increases with cone half-angle. Figure 8b shows that the cone half-angle effect is decreased as the edge radius is increased.

3. Edge radius effects. Figure 9a presents the axial-force coefficient vs Mach number for several edge radii, while keeping the cone half-angle and nose radius constant. Figure 9b presents the axial-force coefficient vs edge radius for several Mach numbers, while keeping the cone half-angle and nose radius constant. The data show that the axial-force coefficient decreases as the edge radius increases for all Mach numbers. Again, modified Newtonian theory underestimates *CA*.

4. Nose radius effects. Figure 10 presents the axial-force coefficient vs Mach number for the two nose radii tested with the three edge radii tested. The data show that the effect of bluntness on *CA* is insignificant regardless of the edge radius.

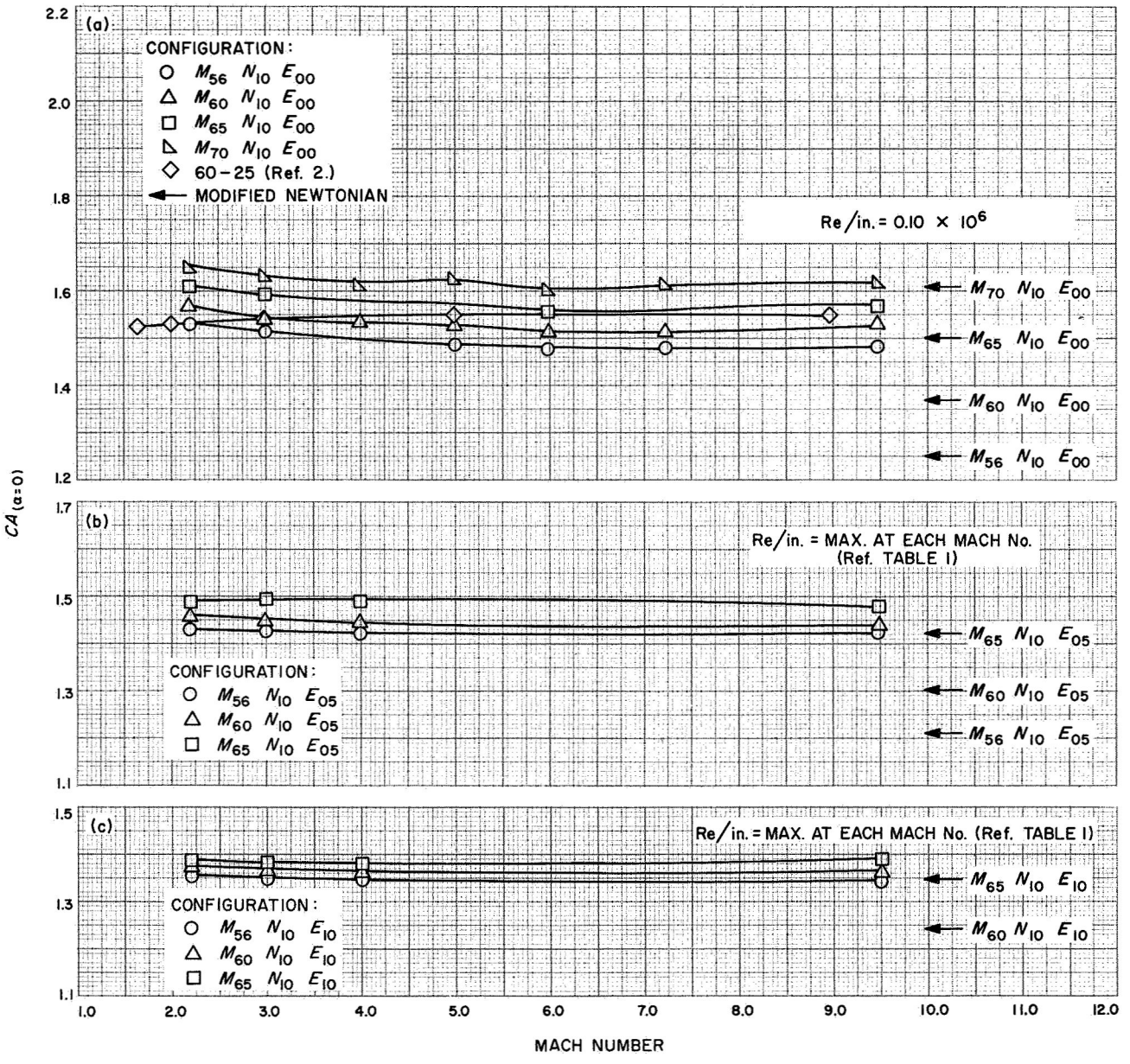


Fig. 7. Variation of axial-force coefficient with Mach No. for various cone half-angles: (a) $CA_{(\alpha=0)}$ vs Mach No., $R_N/D = 0.1$, $R_{edge}/D = 0$; (b) $CA_{(\alpha=0)}$ vs Mach No., $R_N/D = 0.10$, $R_{edge}/D = 0.05$; (c) $CA_{(\alpha=0)}$ vs Mach No., $R_N/D = 0.10$, $R_{edge}/D = 0.10$

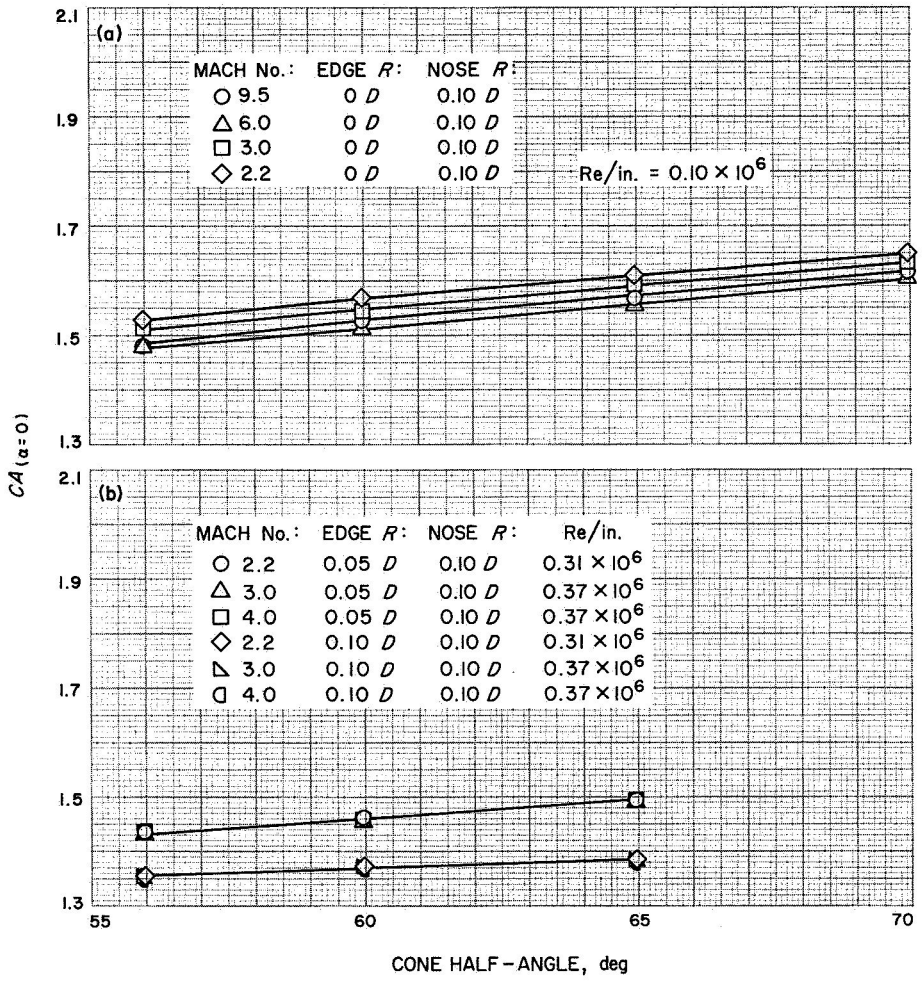


Fig. 8. Variation of axial-force coefficient with cone half-angle: (a) $CA_{(\alpha=0)}$ vs cone half-angle, $R_{edge}/D = 0$; (b) $CA_{(\alpha=0)}$ vs cone half-angle, $R_{edge}/D = 0.05, 0.10$

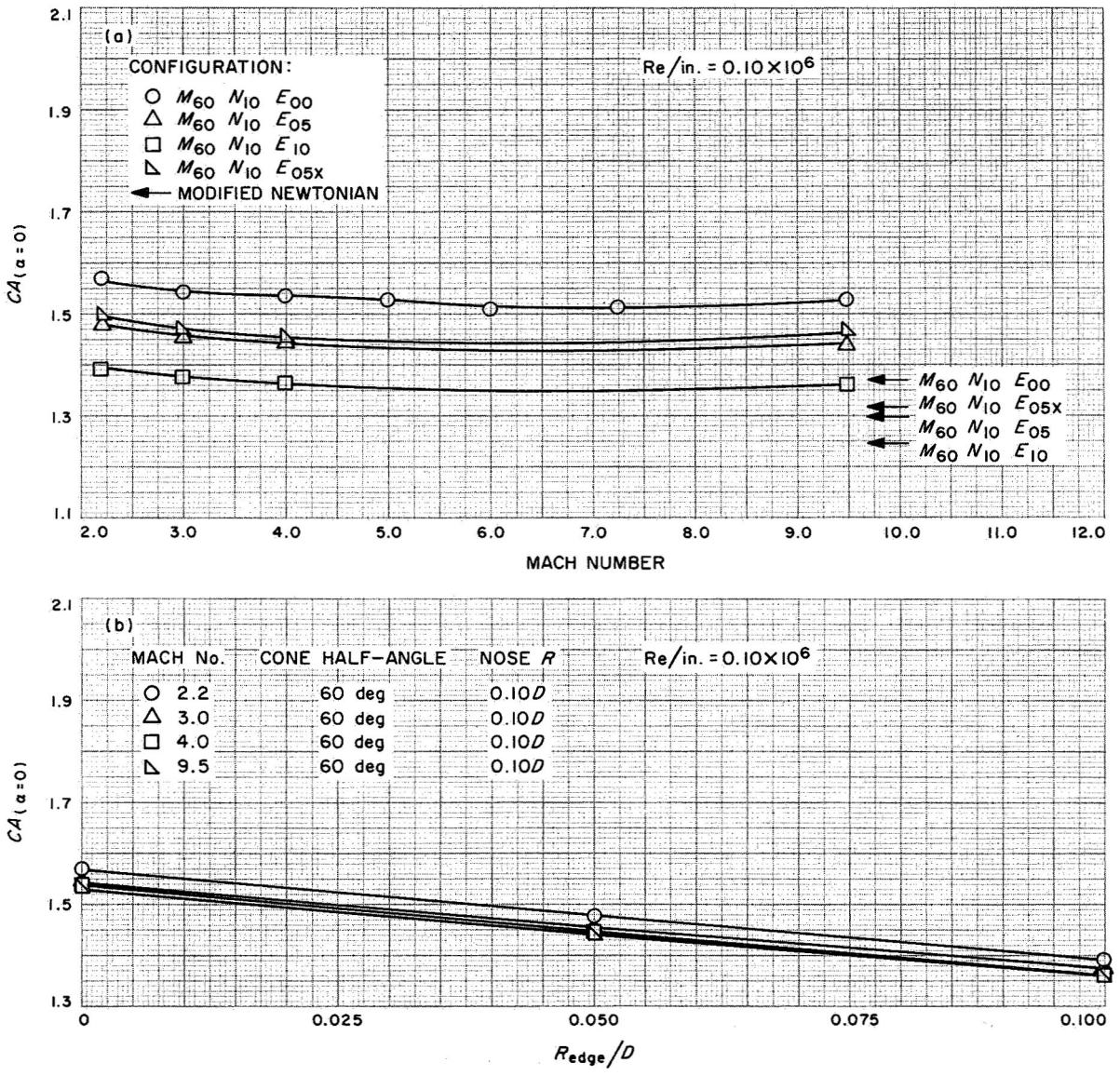


Fig. 9. Variation of axial-force coefficient for a cone half-angle of 60 deg: (a) $CA_{(\alpha=0)}$ vs Mach No.; (b) $CA_{(\alpha=0)}$ vs R_{edge}/D

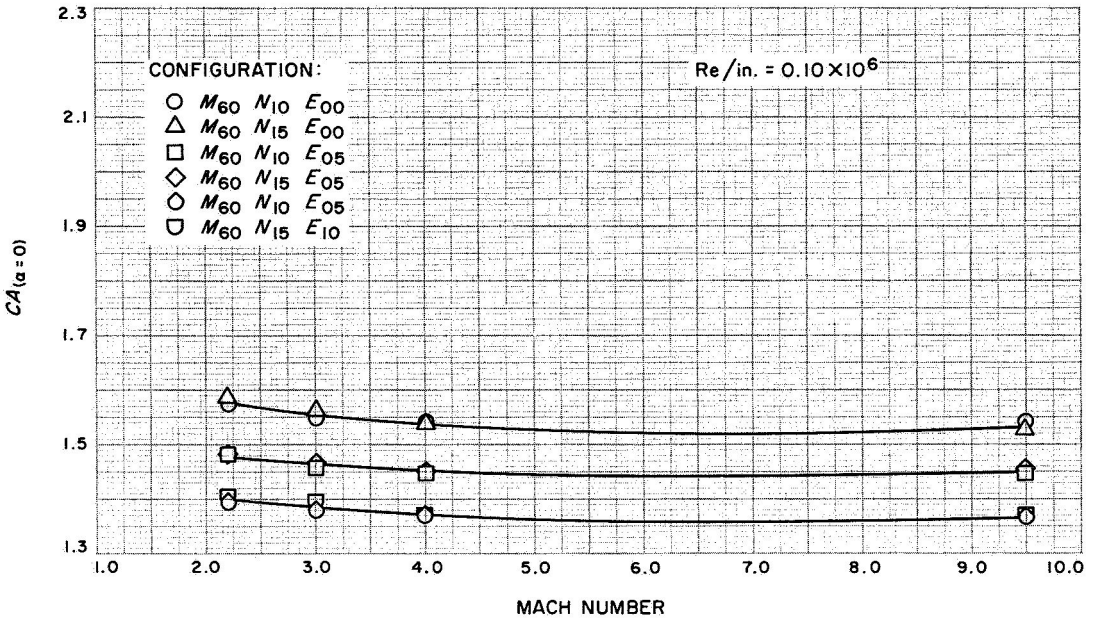


Fig. 10. Variation of axial-force coefficient with Mach No. and nose radius

5. Reynolds number effect. Figure 11 is a plot of the axial-force coefficient vs Reynolds No./in. for several Mach numbers. The data show that the Reynolds number effect on CA is small over the range investigated.

B. Center of Pressure at Zero Angle of Attack, X_{cp}/D

The center of pressure is measured from the physical nose, and aft is taken as the negative direction. The center of pressure is found to be practically independent of angle of attack over the range tested for $M > 2.2$. At $M = 2.2$, the center of pressure is constant for 30 deg $\geq \alpha \geq$ 2 deg.

1. Mach number effects. Center-of-pressure location vs Mach number is presented in Fig. 12 for several configurations. The data show that the Mach number effect on X_{cp}/D is small for $M \geq 3.0$. The data also show that the center-of-pressure location is aft of the physical nose and moves forward as the cone half-angle is decreased. Modified Newtonian theory adequately predicts X_{cp}/D for $M \geq 3.0$. The data agree within 4% with the data from Ref. 2.

2. Cone half-angle effects. Figure 13 is a cross-plot showing the effect of cone half-angle for several Mach numbers and three different edge radii. The data show that the center-of-pressure location moves aft as the cone half-angle is increased. Figure 13b shows that the cone half-angle effect decreases as the edge radius is increased.

3. Edge radius effects. Figure 14a presents the center-of-pressure location vs Mach number for several edge radii with a constant nose radius and a constant cone half-angle. Figure 14b is a cross-plot of the center-of-pressure location vs edge radius for several Mach numbers. The data show that the center-of-pressure location moves forward as the edge radius is increased.

4. Nose radius effects. Figure 15 presents the center-of-pressure location vs Mach number for cones of various bluntness ratios and edge radii. The data show that for the two bluntness ratios tested the effect of bluntness on center-of-pressure location is insignificant. The data also show that the edge radius has no effect on the bluntness effect.

5. Reynolds number effects. Figure 16 presents the center-of-pressure location vs Reynolds No./in. for several Mach numbers. The data show that over the range tested Reynolds number effect on X_{cp}/D is insignificant. Figure 16e presents X_{cp}/D vs Reynolds No./in. for two edge radii at Mach 3.0. The data show that Reynolds number has an insignificant effect regardless of edge radius.

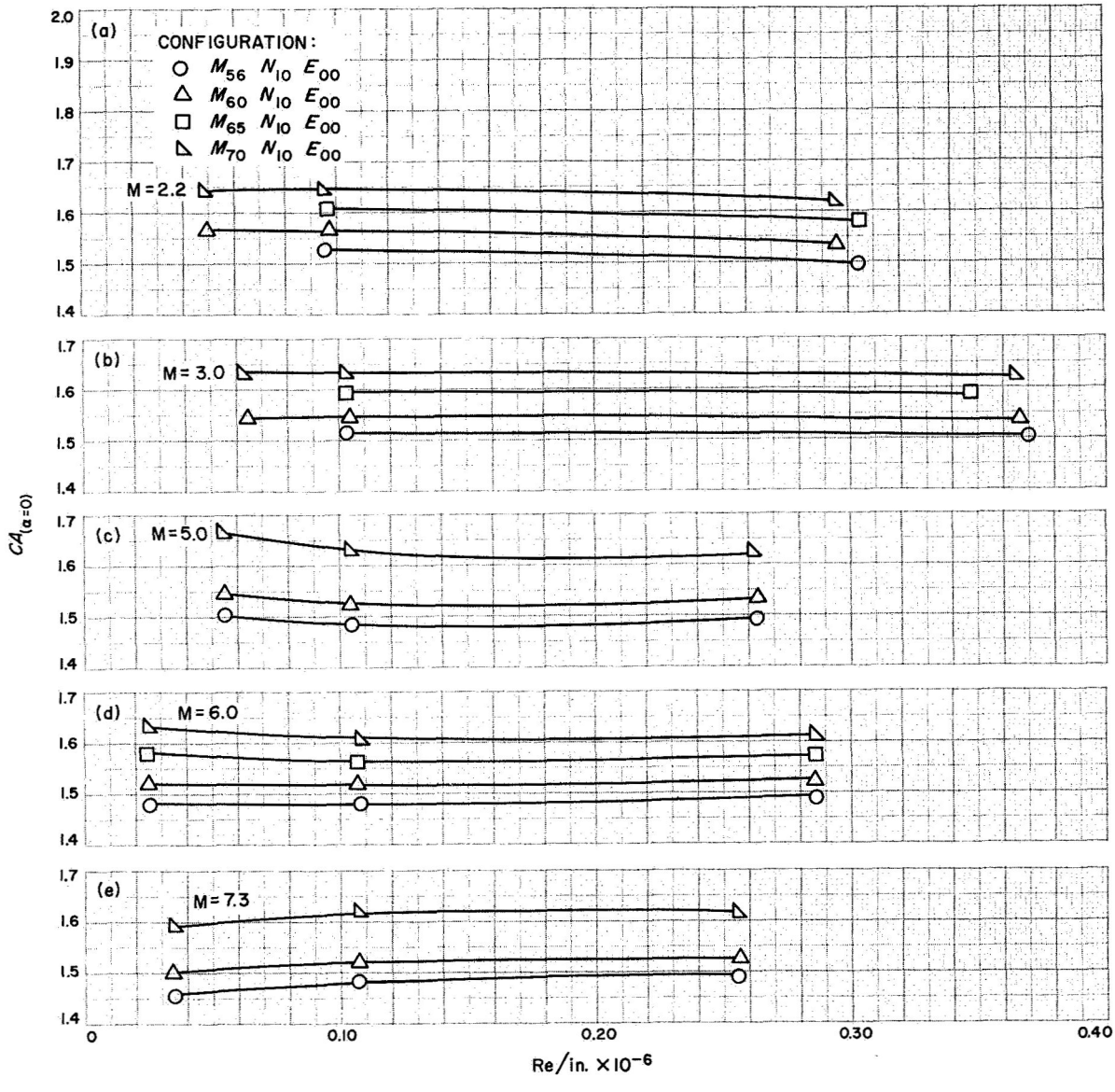


Fig. 11. Variation of axial-force coefficient with Reynolds No.: (a) $CA_{(\alpha=0)}$ vs Re/in., M = 2.2; (b) $CA_{(\alpha=0)}$ vs Re/in., M = 3.0; (c) $CA_{(\alpha=0)}$ vs Re/in., M = 5.0; (d) $CA_{(\alpha=0)}$ vs Re/in., M = 6.0; (e) $CA_{(\alpha=0)}$ vs Re/in., M = 7.3

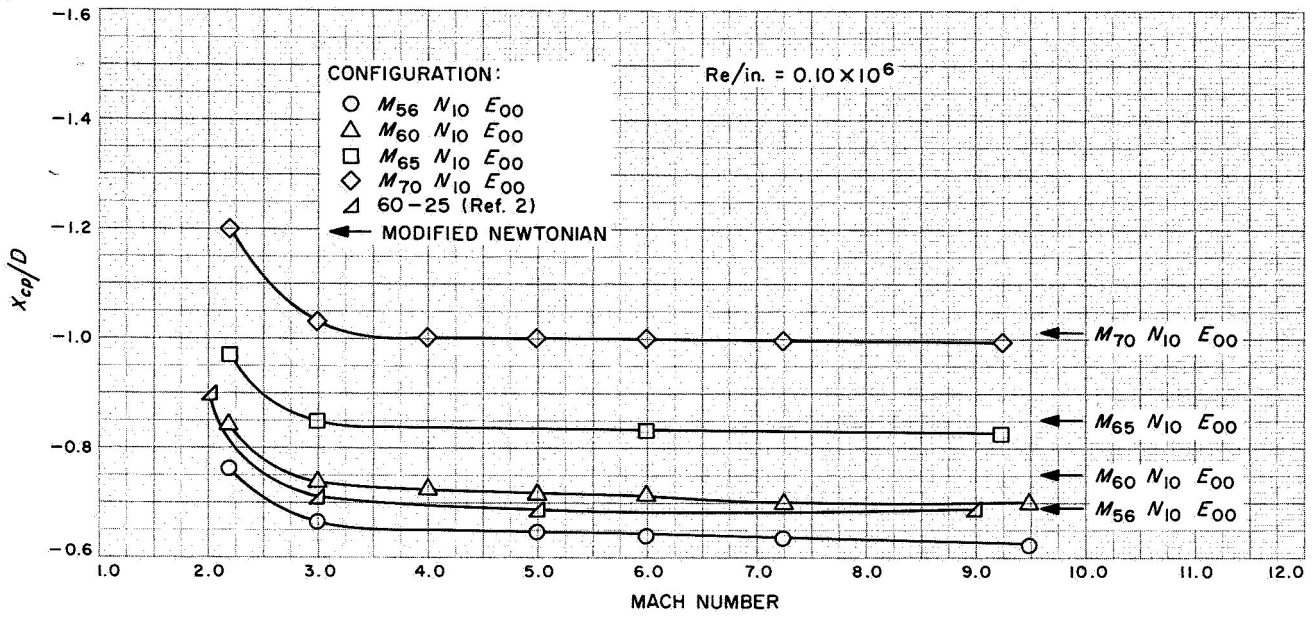


Fig. 12. Variation of center-of-pressure location with Mach No. for various cone half-angles

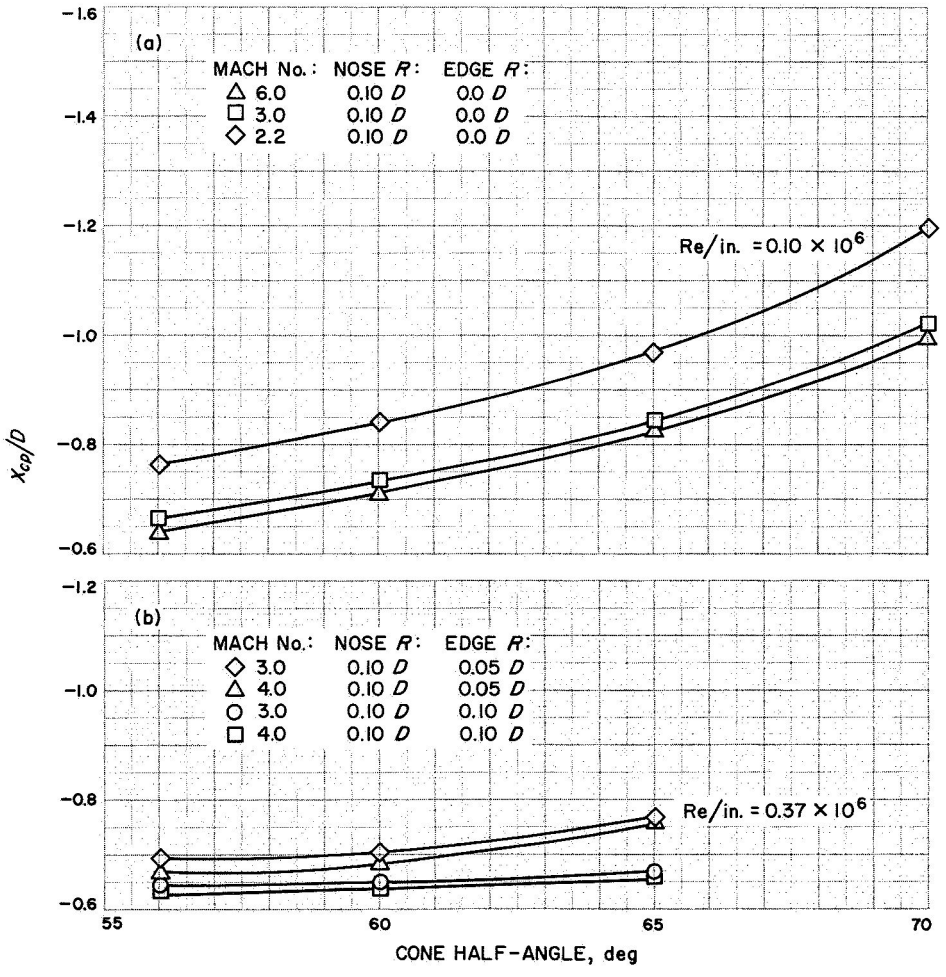


Fig. 13. Variation of center-of-pressure location with cone half-angle: (a) X_{cp}/D vs cone half-angle, $R_{edge} = 0$; (b) X_{cp}/D vs cone half-angle, $R_{edge} =$ 0.05, 0.10

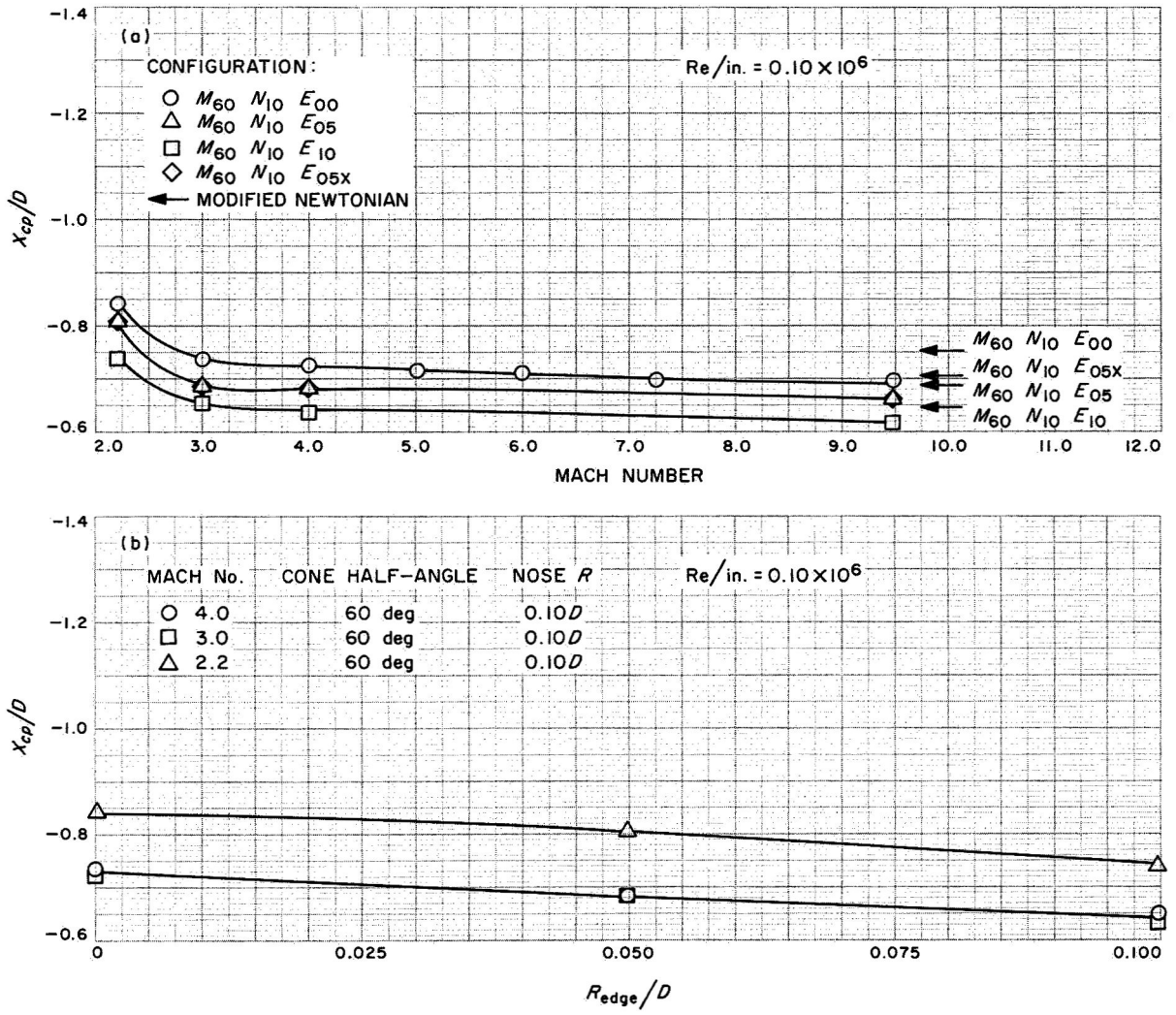


Fig. 14. Variation of center-of-pressure location: (a) X_{cp}/D vs Mach No.; (b) X_{cp}/D vs R_{edge}/D

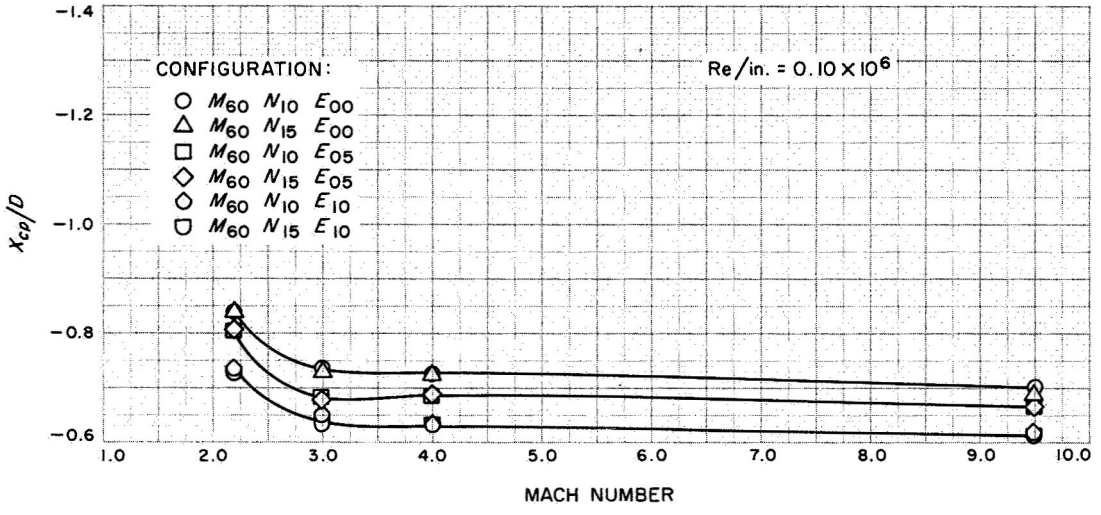


Fig. 15. Variation of center-of-pressure location with Mach No. and nose radius

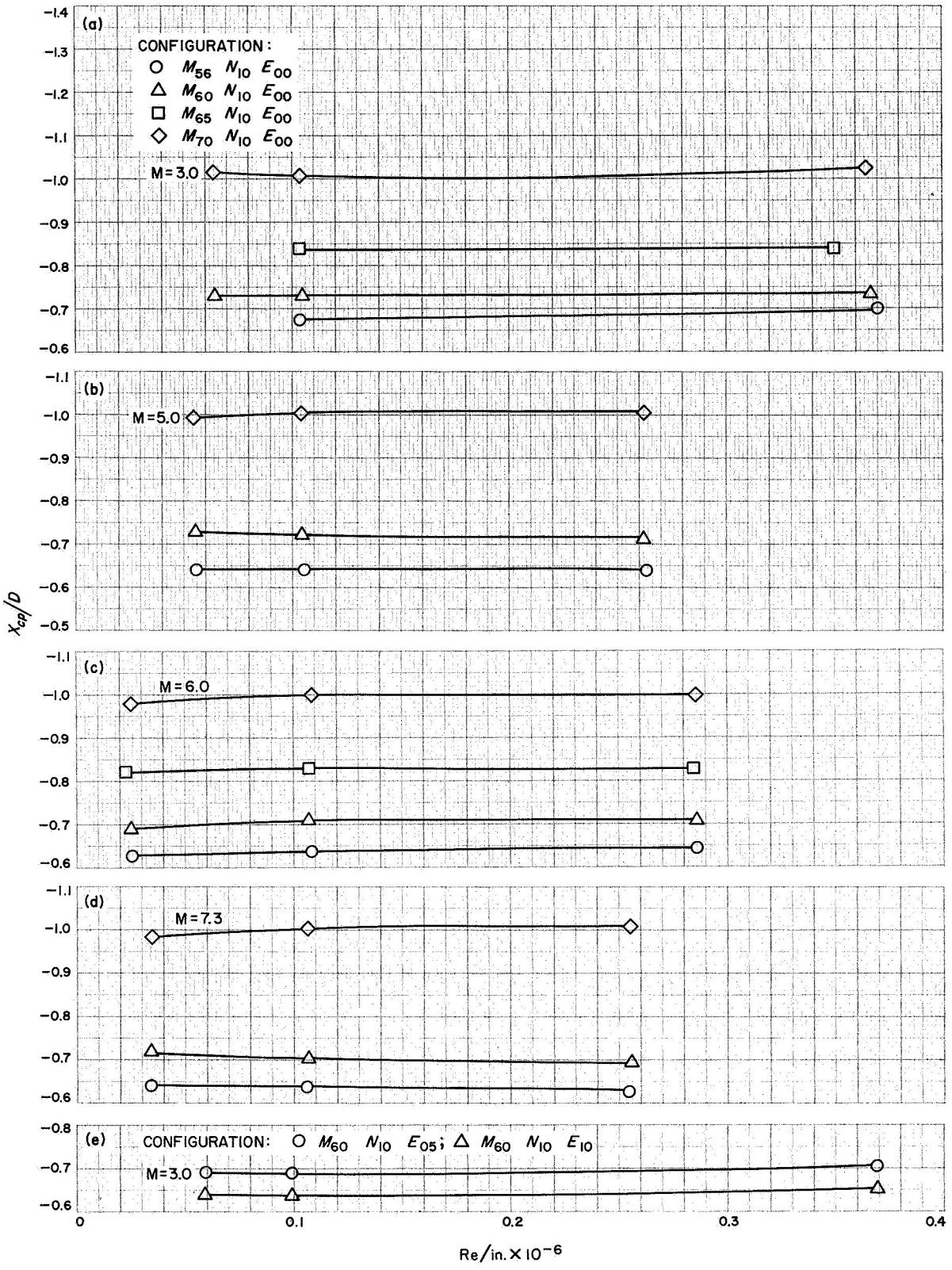


Fig. 16. Variation of center-of-pressure location with Reynolds No.: (a) X_{cp}/D vs Re/in., M = 3.0; (b) X_{cp}/D vs Re/in., M = 5.0; (c) X_{cp}/D vs Re/in., M = 6.0; (d) X_{cp}/D vs Re/in., M = 7.3; (e) X_{cp}/D vs Re/in., R_{edge}/D = 0.05, 0.10

C. Normal-Force Coefficient Slope at Zero Angle of Attack ($C_{N\alpha}$)

The normal-force coefficient slope at zero angle of attack is an important aerodynamic characteristic for control study purposes. Figures 17 through 22 are plots of $C_{N\alpha}$ vs various body shapes and flow parameters. The curves of C_N vs alpha were linear to at least 5 deg for all of the models tested, and in many cases the linearity extended to a higher angle of attack (see the Appendix).

1. Mach number effects. Figure 17 is a plot of $C_{N\alpha}$ vs Mach number with all other parameters held constant for the four cone half-angles tested. Also on this plot are shown modified Newtonian values and the data obtained in Ref. 2. The only Mach number effects noted were between M = 2.2 and M = 3.0. The Newtonian estimates are in error by about 65%. This error, in terms of percent of measured coefficient slope, remains relatively constant with decreasing cone half-angle for the ranges tested. Figure 18 is a plot of the normal-force coefficient slope vs Mach number for three angles of attack for configuration $M_{60}N_{10}E_{00}$. The data show that the Mach number effect on $C_{N\alpha}$ is greater for higher angles of attack.

2. Cone half-angle effects. Figure 19 shows that as the cone half-angle is increased, $C_{N\alpha}$ decreases when all other parameters remain constant. Also from Fig. 19, it can be seen that there is a small Mach number effect between Mach 2.2 and 3.0 but no effect above Mach 3.0.

3. Edge radius effects. Figure 20a is a plot of $C_{N\alpha}$ vs Mach number with Reynolds number, cone half-angle and nose radius held constant while varying edge radius. Therefore, this plot shows the Mach effects in conjunction with the edge radius effects. Figure 20b is a cross-plot of Fig. 20a and allows an interpolation of edge radius effects. From 20b, it can be seen that the Mach effects are small compared to the edge radius effects. Again the modified Newtonian theory overestimates $C_{N\alpha}$.

4. Nose radius effects. Figures 21a and 21b are plots of $C_{N\alpha}$ vs Mach number for the two nose radii tested with all other parameters held constant. (Fig. 21a is for a 0.05-D edge radius and Fig. 21b is for a sharp edge configuration.) These two plots indicate that there are no significant nose radius effects.

5. Reynolds number effects. Figures 22a through 22d are plots of $C_{N\alpha}$ vs Reynolds number for a constant Mach number. The data show that the Reynolds number effects are insignificant compared to the effects of some of the other parameters.

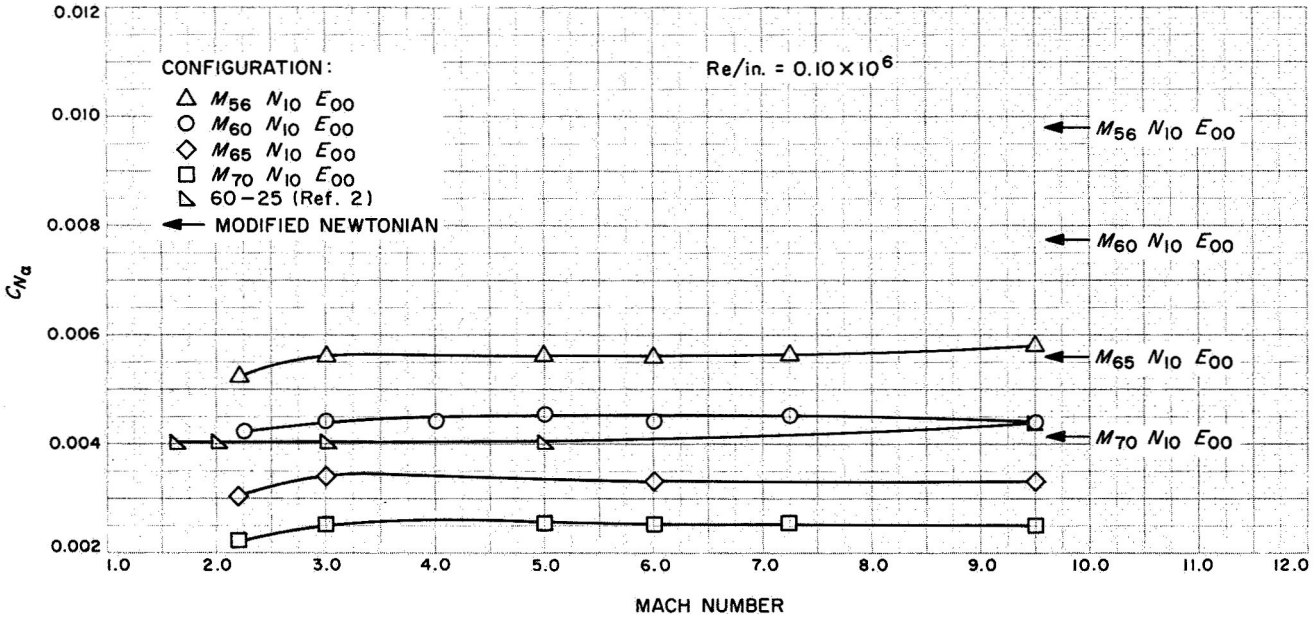


Fig. 17. Variation of normal-force coefficient slope with Mach No. for various cone half-angles

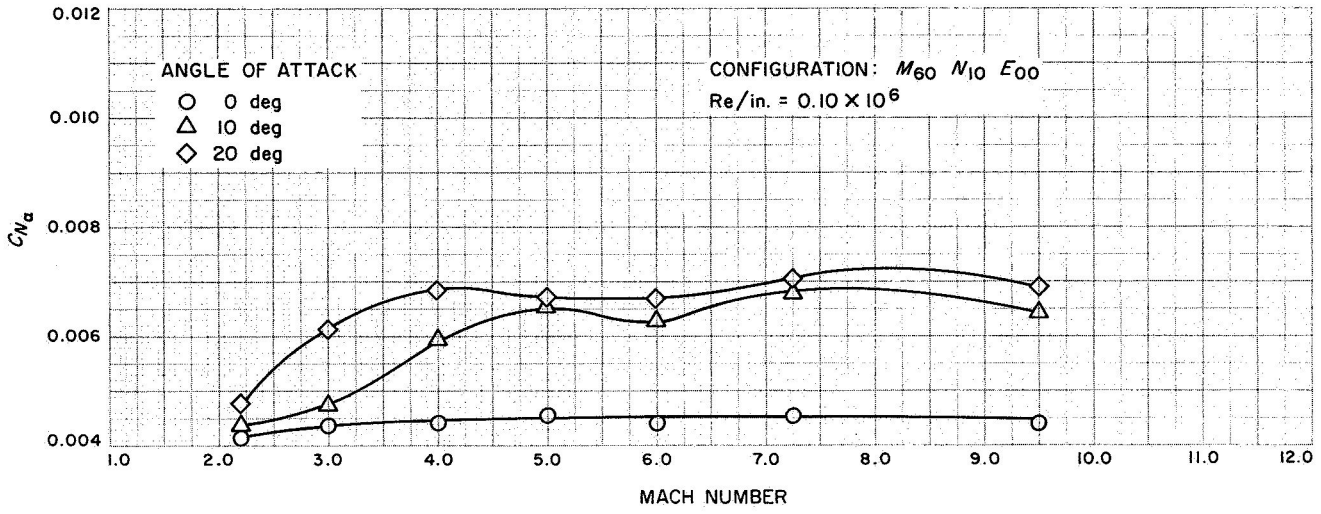


Fig. 18. Configuration $M_{60}N_{10}E_{00}$ normal-force coefficient slope vs Mach No. for various angles of attack

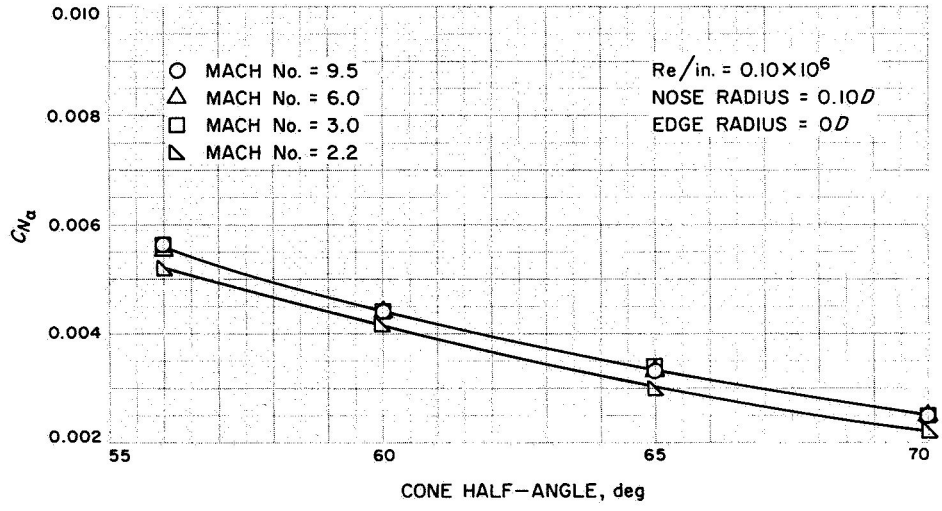


Fig. 19. Variation of normal-force coefficient slope with cone half-angle

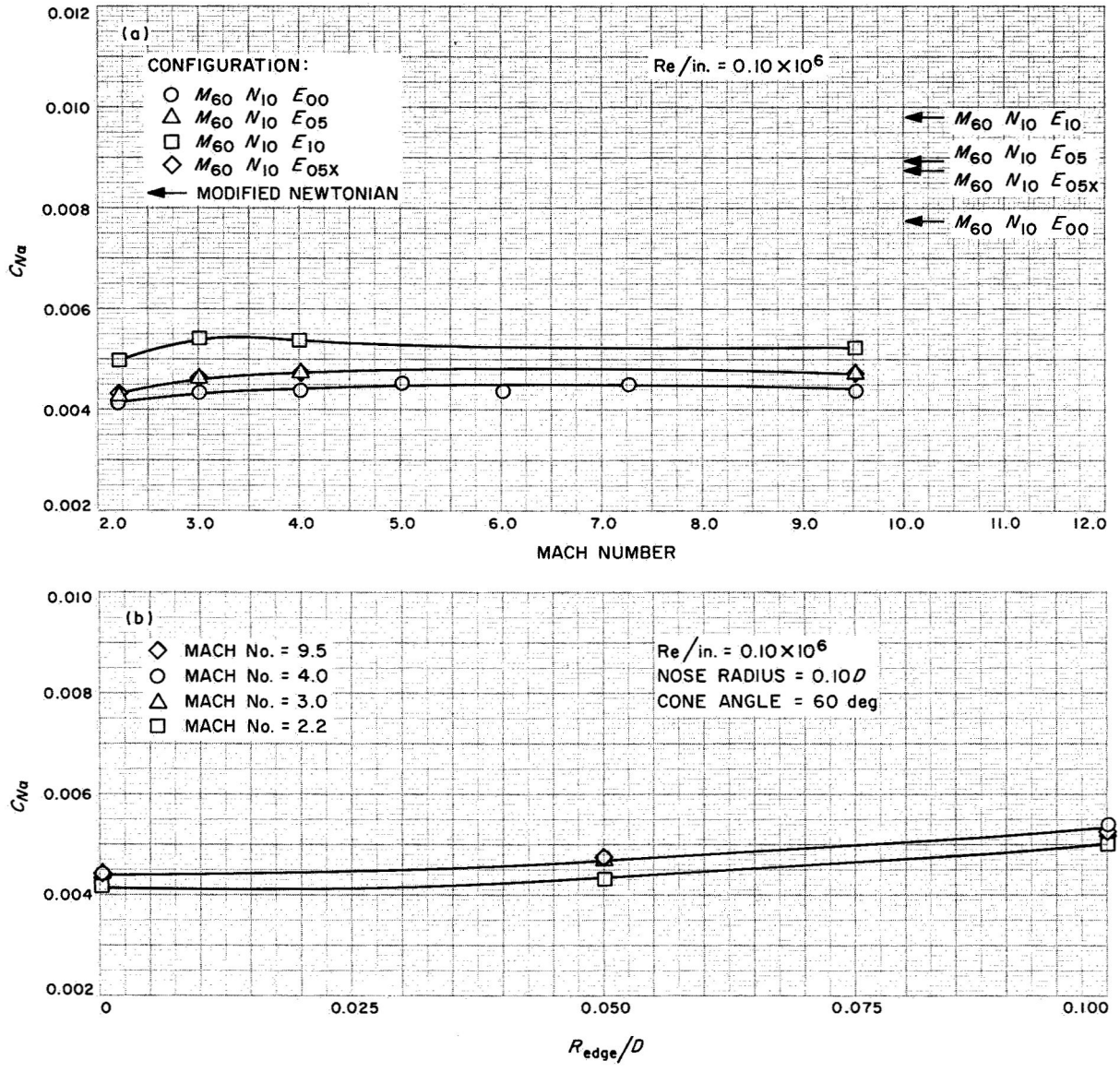


Fig. 20. Variation of normal-force coefficient slope: (a) $C_{N\alpha}$ vs Mach No.; (b) $C_{N\alpha}$ vs R_{edge}/D, $R_N/D = 0.10$

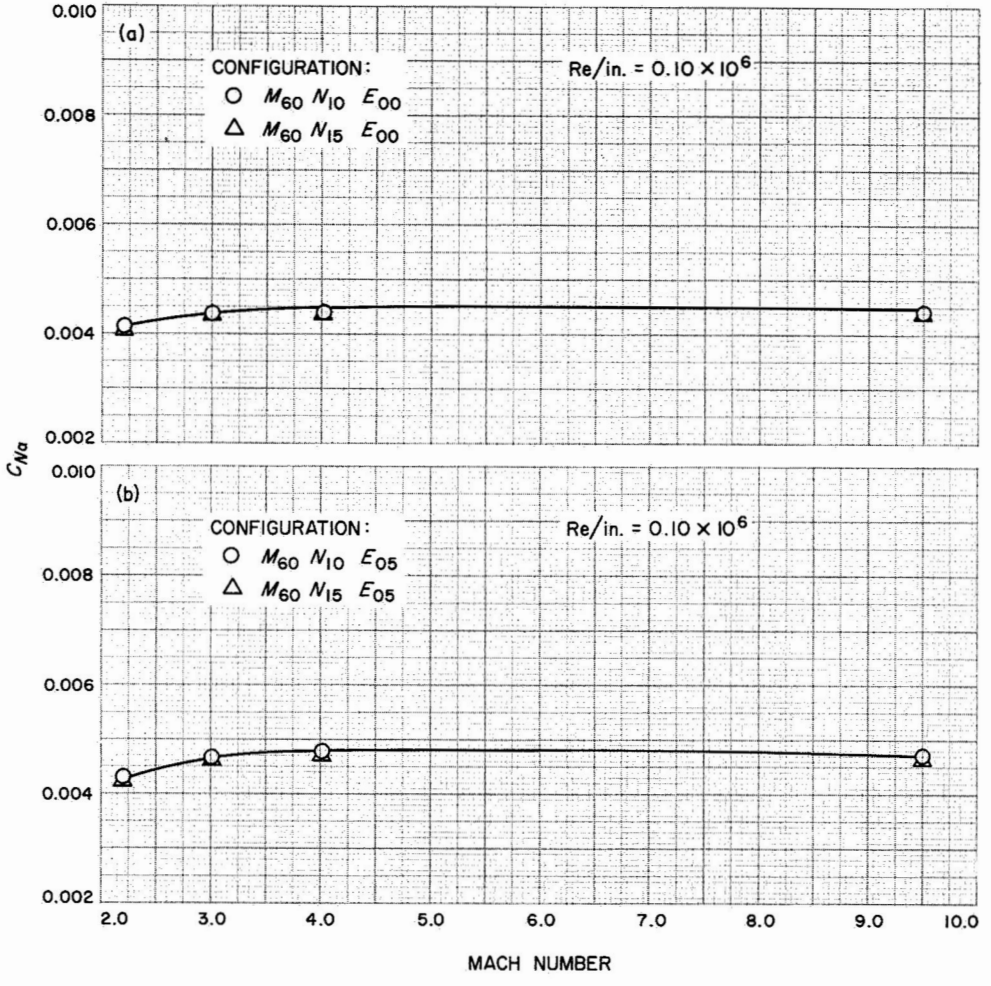


Fig. 21. Variation of normal-force coefficient slope with Mach No. and nose radius: (a) $C_{N\alpha}$ vs Mach No., $R_{edge}/D = 0$; (b) $C_{N\alpha}$ vs Mach No., $R_{edge}/D = 0.05$

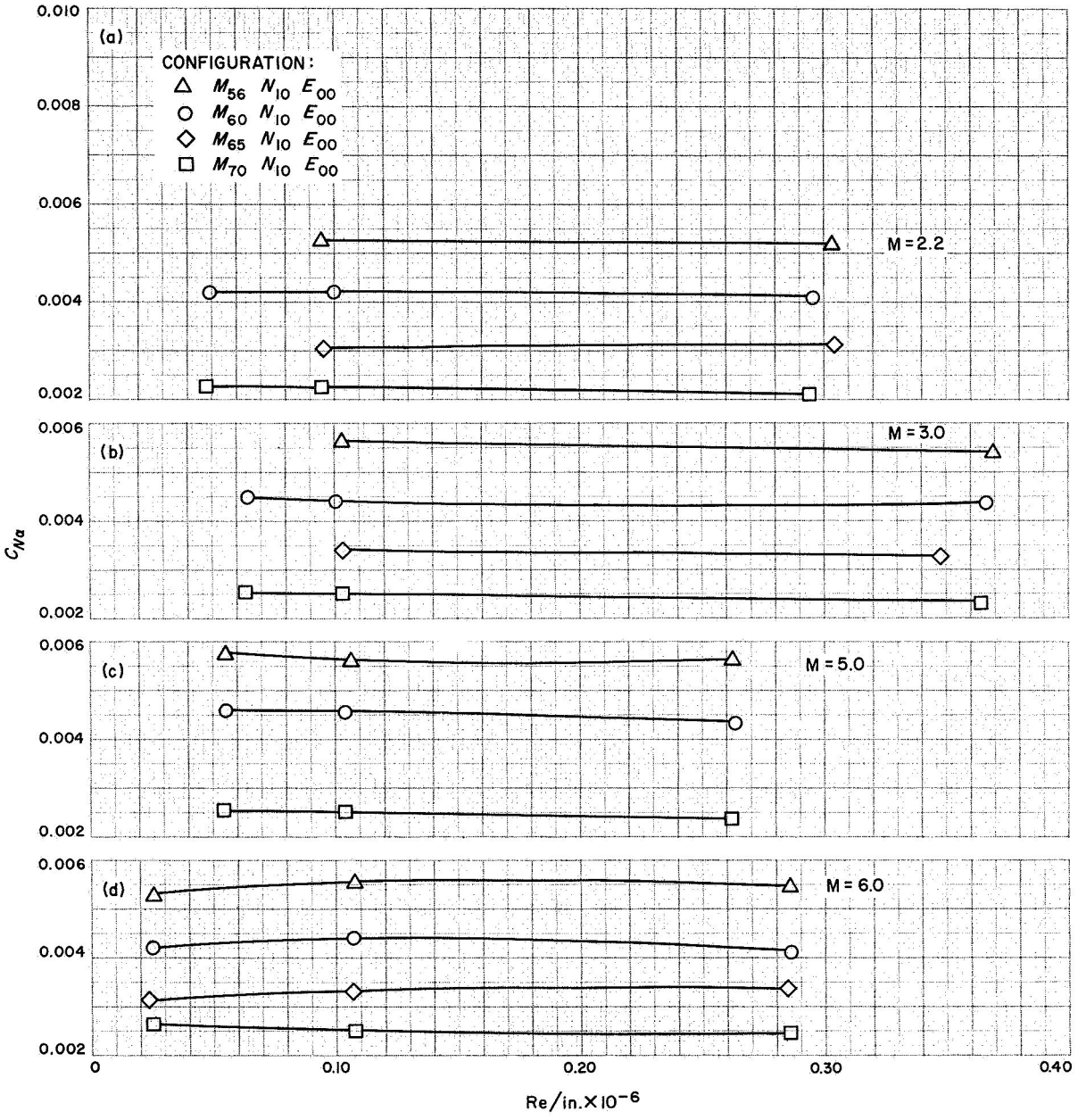


Fig. 22. Variation of normal-force coefficient slope with Reynolds No.: (a) $C_{N\alpha}$ vs Re/in., M = 2.2; (b) $C_{N\alpha}$ vs Re/in., M = 3.0; (c) $C_{N\alpha}$ vs Re/in., M = 5.0; (d) $C_{N\alpha}$ vs Re/in., M = 6.0

IV. Conclusions

The following conclusions are presented for this study:

(1) Variation in nose radius had no significant effect on the static aerodynamic characteristics of these blunt body configurations.

(2) The models were longitudinally, statically stable with the centers of pressure located rearward of the base for all configurations and all test conditions. For $M > 2.2$, the center-of-pressure location varied only slightly with Mach number and was practically independent of angle of attack over the range tested.

(3) For the Reynolds numbers tested ($0.03 \times 10^6 \leq Re/in. \leq 0.37 \times 10^6$), the data show that the Reynolds number effect on the static aerodynamic characteristics of the configurations tested was small.

(4) The data obtained show that the variation of the static aerodynamic characteristics with Mach number for $3.0 \leq M \leq 9.5$ was small.

(5) Increasing the cone half-angle resulted in an increase of the axial-force coefficients, a decrease in normal-force coefficient slope, and a rearward movement of the center-of-pressure location. The data show that the cone half-angle effect decreases as the edge radius is increased.

(6) Increasing the edge radius resulted in a decrease of the axial-force coefficients, an increase in normal-force coefficient, and a forward movement of the center-of-pressure location.

(7) Modified Newtonian theory adequately predicts the center-of-pressure location. Using a maximum pressure coefficient of 1.83, modified Newtonian theory overestimates the normal-force coefficient slope and underestimates the axial-force coefficient.

Appendix

Basic Data from Wind-Tunnel Tests 20-622, 21-192, 21-192B, and 20-641

The plotted data contained in this Appendix constitute a presentation of all of the data obtained during this test program. These data can be used to investigate further any characteristics that are of special interest. The data are plotted against angle of attack with the exception of the pitching-moment coefficient vs normal-force coefficient curves. (The nomenclature used in this Appendix varies from that used in the main body of the report. For clarity, the reader should refer to the Appendix Nomenclature.)

The force and moment data were reduced to dimensionless coefficients using a reference area and length of 12.566 in.^{2} and 4.0 in., respectively. The data were reduced to stability-axis coefficients (i.e., lift and drag) as well as body-axis coefficients.

Most of the C_M and C_N vs angle-of-attack curves did not go exactly through the origin. During test 21-192B, a model was rolled (with respect to the balance adapter) to three possible mounting positions in order to detect any model misalignment. (The models were attached to the balance adapter with three screws spaced 120 deg apart.) The data indicated that there was some model misalignment. This misalignment of the model could result in small angle-of-attack errors which could result in C_N values that are non-zero at an assumed angle of attack of zero degrees. This effect is highly amplified by the high drag–low normal force character of the shapes tested. In addition to the model misalignment investigation, a model was checked for concentricity and the balance windshield was examined to see if it was touching the balance. The model was within an acceptable tolerance, and the windshield was not touching the balance. Thus, the model misalignment problem was the only possible reason that we could detect for the C_N value at an assumed angle of attack of zero degrees. It is not certain, however, that this problem accounts for 100% of the C_N value.

The data from test 21-192 at Mach 9.5 had a higher normal force at zero angle of attack than the data at the lower Mach numbers. This was caused by a nonuniform temperature in the water-cooled strain-gage balance due to the high total temperature of the tunnel. This fact was brought out in a separate investigation during test 21-192A. The investigation showed that zero shifts in the data occur when the balance gages are not at a uniform temperature. It was not possible to maintain a uniform balance temperature at Mach 9.5 during test 21-192 because of a faulty balance thermocouple. However, the balance thermocouple was repaired before test 21-192B, and a uniform balance temperature was maintained throughout the test. A correction of the data from test 21-192 (air-off instrument zeroes were replaced by air-on zeroes) resulted in a vertical displacement of the normal-force-coefficient vs angle-of-attack curve, but did not change the slope of the curve. (The plots reflect this change, but these corrections are not included in the list mentioned below.) All of the C_N, C_M data were corrected to pass through the origin. A listing of the delta values (i.e., the uncorrected value of C_M and C_N at zero angle of attack) is included on the plot schedule (Table A-1). The correction consisted of vertically displacing the entire curve by the amount of the delta value. For example, if the sign of the delta value is negative, then the uncorrected value of the data was negative at zero angle of attack, and thus the curve was shifted upward by that constant amount for all values of angle of attack.

The plotted data show that at M = 2.2, the base-pressure coefficient begins to decrease at an approximate angle of attack of 10 deg; while at Mach numbers 3.0, 4.0, and 6.0, most of the data is practically constant over the angle-of-attack range. It should be recognized that all of these base-pressure data were measured within the area of influence of the sting-support and may include support interference effects.

In most of the C_{PB} vs angle-of-attack plots, there are two runs presented for each configuration. In one run the base pressure is measured at a constant rate while the model is pitched through the alpha range. In contrast, the data for the second run were taken in a pitch-and-pause mode at discrete angles of attack to calibrate a possible lag in the continuous variation.

The coefficient repeatability is presented in Table A-2. The repeatability coefficients were determined by calculating the root-mean-square of all available repeat-point deviations for each coefficient.

Table A-1. Plot schedule

Test 20-622:

Plot No.	Run No.	Configuration No.	Mach No.	Re/in. $\times 10^{-6}$	Delta Values		
					CN3	*CM3*	*CN5*
1	8	$M_{56}N_{10}E_{00}$	3.02	0.370	0.0008	0.0001	0.0009
	11	$M_{56}N_{10}E_{05}$		0.374	−0.0012	0.0012	−0.0011
	16	$M_{56}N_{10}E_{10}$		0.373	−0.0008	0.0009	−0.0007
2	10	$M_{56}N_{10}E_{05}$	2.99	0.063	−0.0076	0.0072	−0.0076
2	14	$M_{56}N_{10}E_{10}$	2.99	0.066	−0.0025	0.0030	−0.0024
3	19	$M_{56}N_{15}E_{00}$	3.02	0.372	−0.0014	0.0014	−0.0015
	21	$M_{56}N_{15}E_{05}$		0.370	−0.0009	0.0012	−0.0009
	25	$M_{56}N_{15}E_{10}$		0.366	0.0003	0.0002	0.0003
4	27	$M_{60}N_{10}E_{00}$	3.01	0.104	−0.0033	0.0026	−0.0033
	30	$M_{60}N_{10}E_{05}$		0.104	−0.0040	0.0027	−0.0041
	34	$M_{60}N_{10}E_{05\pi}$		0.102	−0.0042	0.0021	−0.0042
	39	$M_{60}N_{10}E_{10}$		0.103	−0.0020	0.0013	−0.0020
5	29	$M_{60}N_{10}E_{05}$	2.99	0.064	−0.0063	0.0049	−0.0063
	33	$M_{60}N_{10}E_{05\pi}$		0.062	−0.0049	0.0036	−0.0049
	38	$M_{60}N_{10}E_{10}$		0.058	−0.0020	0.0016	−0.0020
6	31	$M_{60}N_{10}E_{05}$	3.02	0.372	−0.0038	0.0017	−0.0038
	35	$M_{60}N_{10}E_{05\pi}$		0.369	−0.0040	0.0012	−0.0039
	40	$M_{60}N_{10}E_{10}$		0.373	−0.0018	0.0005	−0.0018
7	42	$M_{60}N_{15}E_{00}$	3.01	0.101	−0.0046	0.0023	−0.0047
	44	$M_{60}N_{15}E_{05}$		0.102	−0.0040	0.0023	−0.0040
	46	$M_{60}N_{15}E_{10}$		0.102	−0.0023	0.0015	−0.0023
8	48	$M_{65}N_{10}E_{00}$	3.02	0.349	−0.0051	0.0010	−0.0050
8	59	$M_{65}N_{15}E_{00}$	3.02	0.345	−0.0041	0.0008	−0.0040
9	51	$M_{65}N_{10}E_{05}$	2.99	0.062	−0.0044	0.0022	−0.0044
9	55	$M_{65}N_{10}E_{10}$	3.02	0.062	−0.0035	0.0027	−0.0035
10	52	$M_{65}N_{10}E_{05}$		0.347	−0.0040	0.0012	−0.0040
10	61	$M_{65}N_{15}E_{05}$		0.345	−0.0044	0.0011	−0.0042
12	56	$M_{65}N_{10}E_{10}$		0.347	−0.0029	0.0012	−0.0028
12	63	$M_{65}N_{15}E_{10}$		0.345	−0.0030	0.0009	−0.0030
13	75	$M_{65}N_{10}E_{00}$	2.21	0.305	−0.0064	0.0022	−0.0063
13	85	$M_{56}N_{10}E_{00}$	2.22	0.303	−0.0042	0.0016	−0.0042
14	71	$M_{65}N_{10}E_{05}$	2.21	0.051	−0.0071	0.0051	−0.0070
	87	$M_{56}N_{10}E_{05}$	2.22	0.051	−0.0059	0.0038	−0.0058
	100	$M_{60}N_{10}E_{05}$		0.052	−0.0071	0.0050	−0.0071
	103	$M_{60}N_{10}E_{05\pi}$		0.051	−0.0061	0.0041	−0.0061

Table A-1 (contd)

Test 20-622: (contd)

Plot No.	Run No.	Configuration No.	Mach No.	Re/in. $\times 10^{-6}$	Delta Values		
					CN3	CM3	CN5
15	72	$M_{65}N_{10}E_{05}$	2.21	0.309	−0.0053	0.0023	−0.0052
	88	$M_{56}N_{10}E_{05}$	2.22	0.305	−0.0049	0.0023	−0.0048
	102	$M_{60}N_{10}E_{05}$		0.308	−0.0053	0.0029	−0.0052
	105	$M_{60}N_{10}E_{05r}$		0.307	−0.0050	0.0023	−0.0049
16	77	$M_{65}N_{10}E_{10}$	2.21	0.051	−0.0037	0.0016	−0.0038
	91	$M_{56}N_{10}E_{10}$	2.22	0.052	−0.0039	0.0033	−0.0039
	106	$M_{60}N_{10}E_{10}$	2.22	0.052	−0.0038	0.0031	−0.0038
17	78	$M_{65}N_{10}E_{10}$	2.21	0.306	−0.0045	0.0019	−0.0044
	93	$M_{56}N_{10}E_{10}$	2.22	0.305	−0.0032	0.0020	−0.0032
	108	$M_{60}N_{10}E_{10}$	2.22	0.307	−0.0037	0.0019	−0.0036
18	80	$M_{65}N_{15}E_{00}$	2.21	0.303	−0.0057	0.0023	−0.0056
	81	$M_{65}N_{15}E_{05}$		0.302	−0.0058	0.0023	−0.0057
	82	$M_{65}N_{15}E_{10}$		0.304	−0.0047	0.0023	−0.0046
19	94	$M_{56}N_{15}E_{00}$	2.22	0.305	−0.0054	0.0021	−0.0053
	95	$M_{56}N_{15}E_{05}$		0.304	−0.0049	0.0027	−0.0048
	97	$M_{56}N_{15}E_{10}$		0.305	−0.0039	0.0021	−0.0039
20	99	$M_{60}N_{10}E_{00}$	2.21	0.098	−0.0042	0.0018	−0.0042
	101	$M_{60}N_{10}E_{05}$		0.094	−0.0052	0.0033	−0.0052
	104	$M_{60}N_{10}E_{05r}$		0.096	−0.0052	0.0026	−0.0052
	107	$M_{60}N_{10}E_{10}$		0.096	−0.0031	0.0020	−0.0031
21	109	$M_{60}N_{15}E_{00}$		0.096	−0.0046	0.0021	−0.0046
	110	$M_{60}N_{15}E_{05}$		0.096	−0.0059	0.0029	−0.0059
	111	$M_{60}N_{15}E_{10}$		0.097	−0.0034	0.0023	−0.0034
22	112	$M_{60}N_{10}E_{00}$	3.98	0.106	−0.0107	0.0075	−0.0108
	113	$M_{60}N_{10}E_{05}$		0.106	−0.0081	0.0066	−0.0081
	116	$M_{60}N_{10}E_{05r}$		0.106	−0.0085	0.0060	−0.0085
	118	$M_{60}N_{10}E_{10}$		0.106	−0.0088	0.0063	−0.0088
23	114	$M_{60}N_{10}E_{05}$	4.00	0.373	−0.0070	0.0041	−0.0069
	121	$M_{65}N_{10}E_{05}$		0.368	−0.0068	0.0037	−0.0067
	126	$M_{56}N_{10}E_{05}$		0.378	−0.0073	0.0048	−0.0073
	115	$M_{60}N_{10}E_{05r}$		0.368	−0.0074	0.0038	−0.0073
24	117	$M_{60}N_{10}E_{10}$		0.368	−0.0070	0.0043	−0.0069
	131	$M_{56}N_{10}E_{10}$		0.376	−0.0062	0.0042	−0.0061
	139	$M_{65}N_{10}E_{10}$		0.374	−0.0068	0.0042	−0.0068

Table A-1 (contd)

Test 20-622: (contd)

Plot No.	Run No.	Configuration No.	Mach No.	Re/in. $\times 10^{-6}$	Delta Values		
					CN3	CM3	CN5
25	119	$M_{60}N_{15}E_{05}$	3.98	0.106	−0.0099	0.0075	−0.0099
	128	$M_{60}N_{15}E_{10}$		0.106	−0.0079	0.0058	−0.0079
	129	$M_{60}N_{15}E_{00}$		0.106	−0.0074	0.0052	−0.0073
26	120	$M_{65}N_{10}E_{05}$		0.106	−0.0077	0.0056	−0.0077
26	138	$M_{65}N_{10}E_{10}$		0.109	−0.0100	0.0083	−0.0100
27	123	$M_{60}N_{10}E_{00}$	4.00	0.378	−0.0070	0.0035	−0.0070
27	136	$M_{65}N_{10}E_{00}$	4.00	0.373	−0.0077	0.0036	−0.0076
28	125	$M_{60}N_{10}E_{05}$	3.98	0.111	−0.0089	0.0072	−0.0088
28	130	$M_{60}N_{10}E_{10}$	3.98	0.109	−0.0080	0.0069	−0.0079
29	133	$M_{60}N_{15}E_{00}$	4.00	0.372	−0.0079	0.0043	−0.0078
	134	$M_{60}N_{15}E_{05}$		0.371	−0.0066	0.0040	−0.0065
	135	$M_{60}N_{15}E_{10}$		0.370	−0.0061	0.0036	−0.0060
30	141	$M_{65}N_{15}E_{00}$		0.371	−0.0073	0.0033	−0.0072
	142	$M_{65}N_{15}E_{05}$		0.373	−0.0064	0.0034	−0.0063
	143	$M_{65}N_{15}E_{10}$		0.370	−0.0056	0.0033	−0.0056
31A	7	$M_{60}N_{10}E_{00}$	3.02	0.372			
	8	$M_{60}N_{10}E_{00}$		0.370			
	15	$M_{60}N_{10}E_{10}$		0.376			
	16	$M_{60}N_{10}E_{10}$		0.372			
31B	11	$M_{60}N_{10}E_{05}$		0.374			
31B	12	$M_{60}N_{10}E_{05}$		0.372			
32	49	$M_{65}N_{10}E_{00}$		0.349			
	53	$M_{65}N_{10}E_{05}$		0.345			
	57	$M_{65}N_{10}E_{10}$		0.346			
33	75	$M_{65}N_{10}E_{00}$	2.21	0.305			
	76	$M_{65}N_{10}E_{00}$	2.21	0.305			
	84	$M_{60}N_{10}E_{00}$	2.22	0.304			
	85	$M_{60}N_{10}E_{00}$	2.22	0.303			
34	72	$M_{65}N_{10}E_{05}$	2.21	0.309			
	73	$M_{65}N_{10}E_{05}$	2.21	0.308			
	88	$M_{60}N_{10}E_{05}$	2.22	0.305			
	89	$M_{60}N_{10}E_{05}$	2.22	0.304			

Table A-1 (contd)

Test 20-622: (contd)

Plot No.	Run No.	Configuration No.	Mach No.	Re/in. $\times 10^{-6}$	Delta Values		
					CN3	*CM3*	*CN5*
35	78	$M_{65}N_{10}E_{10}$	2.21	0.306			
	79	$M_{65}N_{10}E_{10}$	2.21	0.305			
	92	$M_{56}N_{10}E_{10}$	2.22	0.306			
	93	$M_{56}N_{10}E_{10}$	2.22	0.305			
36	123	$M_{56}N_{10}E_{00}$	4.00	0.378			
	124	$M_{56}N_{10}E_{00}$		0.376			
	126	$M_{56}N_{10}E_{05}$		0.378			
	127	$M_{56}N_{10}E_{05}$		0.374			
	131	$M_{56}N_{10}E_{10}$		0.376			
	132	$M_{56}N_{10}E_{10}$		0.373			
37	121	$M_{65}N_{10}E_{05}$		0.368			
	122	$M_{65}N_{10}E_{05}$		0.367			
	136	$M_{65}N_{10}E_{00}$		0.373			
	137	$M_{65}N_{10}E_{00}$		0.365			
	139	$M_{65}N_{10}E_{10}$		0.374			
	140	$M_{65}N_{10}E_{10}$		0.371			
Test 21-192:							
14	61	$M_{60}N_{10}E_{05}$	9.14	0.027	−0.0075	0.0048	−0.0075
	63	$M_{60}N_{10}E_{05x}$	9.15	0.027	−0.0028	0.0011	−0.0027
	66	$M_{60}N_{10}E_{10}$	9.15	0.027	−0.0026	0.0013	−0.0026
15	60	$M_{60}N_{10}E_{00}$	9.49	0.105	−0.0016	0.0000	−0.0016
	62	$M_{60}N_{10}E_{05}$	9.48	0.106	−0.0017	0.0003	−0.0017
	64	$M_{60}N_{10}E_{05x}$			−0.0014	0.0004	−0.0014
	65	$M_{60}N_{10}E_{10}$			−0.0018	0.0014	−0.0018
16	67	$M_{60}N_{15}E_{00}$			−0.0043	0.0025	−0.0043
	68	$M_{60}N_{15}E_{05}$			−0.0040	0.0021	−0.0040
	69	$M_{60}N_{15}E_{10}$			−0.0019	0.0009	−0.0019
17	70	$M_{65}N_{10}E_{05}$	9.15	0.026	−0.0028	0.0011	−0.0028
17	77	$M_{65}N_{10}E_{10}$	9.15	0.027	−0.0085	0.0056	−0.0085
18	73	$M_{65}N_{10}E_{00}$	9.48	0.106	−0.0036	0.0011	−0.0036
	71	$M_{65}N_{10}E_{05}$			−0.0020	0.0013	−0.0020
	82	$M_{65}N_{10}E_{10}$			−0.0039	0.0025	−0.0039
19	75	$M_{65}N_{15}E_{00}$			−0.0018	0.0002	−0.0019
19	76	$M_{65}N_{15}E_{05}$		0.105	−0.0015	0.0005	−0.0017

Table A-1 (contd)

Test 21:192: (contd)

Plot No.	Run No.	Configuration No.	Mach No.	Re/in. $\times 10^{-6}$	Delta Values		
					CN3	*CM3*	*CN5*
22	6	$M_{56}N_{10}E_{00}$	6.06	0.286			
	12	$M_{56}N_{10}E_{05}$					
	15	$M_{56}N_{10}E_{10}$					
23	33	$M_{65}N_{10}E_{00}$					
	36	$M_{65}N_{10}E_{05}$					
	39	$M_{65}N_{10}E_{10}$					
Test 21-192B:							
1	24	$M_{56}N_{10}E_{00}$	9.25	0.037	0.0102	−0.0077	0.0102
	12	$M_{60}N_{10}E_{00}$	9.25	0.037	0.0195	−0.0129	0.0195
	18	$M_{70}N_{10}E_{00}$	9.25	0.037	0.0144	−0.0129	0.0145
2	25	$M_{56}N_{10}E_{00}$	9.50	0.105	0.0030	0.0004	0.0029
	13	$M_{60}N_{10}E_{00}$	9.51	0.105	0.0064	−0.0007	0.0062
	19	$M_{70}N_{10}E_{00}$	9.49	0.105	0.0006	0.0012	0.0006
3	15	$M_{56}N_{10}E_{05}$	9.25	0.036	0.0156	−0.0121	0.0155
3	21	$M_{56}N_{10}E_{10}$	9.25	0.037	0.0069	−0.0051	0.0068
4	16	$M_{56}N_{10}E_{05}$	9.51	0.105	0.0049	−0.0009	0.0049
4	22	$M_{56}N_{10}E_{10}$	9.49	0.106	0.0019	0.0020	0.0018
5	27	$M_{56}N_{15}E_{00}$	9.50	0.106	0.0087	−0.0034	0.0087
	29	$M_{56}N_{15}E_{05}$	9.48	0.106	−0.0029	0.0054	−0.0029
	31	$M_{56}N_{15}E_{10}$	9.48	0.105	−0.0051	0.0074	−0.0051
6	52	$M_{56}N_{10}E_{00}$	7.10	0.034	0.0194	−0.0125	0.0193
	49	$M_{60}N_{10}E_{00}$	7.10	0.034	−0.0023	0.0025	−0.0024
	36	$M_{70}N_{10}E_{00}$	7.09	0.034	0.0159	−0.0155	0.0158
7	51	$M_{56}N_{10}E_{00}$	7.24	0.106	0.0071	−0.0019	0.0071
	48	$M_{60}N_{10}E_{00}$	7.24	0.107	0.0036	0.0017	0.0036
	37	$M_{70}N_{10}E_{00}$	7.26	0.106	0.0048	−0.0017	0.0048
8	50	$M_{56}N_{10}E_{00}$	7.33	0.255	0.0056	−0.0001	0.0055
	47	$M_{60}N_{10}E_{00}$		0.256	0.0040	0.0015	0.0040
	54	$M_{60}N_{10}E_{05}$		0.255	0.0016	0.0018	0.0015
	38	$M_{70}N_{10}E_{00}$		0.255	0.0033	0.0013	0.0032
9	58	$M_{56}N_{10}E_{00}$	5.85	0.025	−0.0039	0.0077	−0.0040
	61	$M_{60}N_{10}E_{00}$		0.025	0.0136	−0.0094	0.0136
	68	$M_{65}N_{10}E_{00}$		0.023	0.0152	−0.0115	0.0152
	64	$M_{70}N_{10}E_{00}$		0.025	0.0149	−0.0143	0.0148

Table A-1 (contd)

Test 21-192B: (contd)

Plot No.	Run No.	Configuration No.	Mach No.	Re/in. $\times 10^{-6}$	Delta Values		
					CN3	*CM3*	*CN5*
10	59	$M_{56}N_{10}E_{00}$	6.00	0.108	0.0026	0.0030	0.0026
	62	$M_{60}N_{10}E_{00}$		0.107	0.0038	0.0013	0.0037
	69	$M_{65}N_{10}E_{00}$		0.107	0.0041	−0.0005	0.0041
	65	$M_{70}N_{10}E_{00}$		0.108	0.0038	−0.0012	0.0037
11	60	$M_{56}N_{10}E_{00}$	6.07	0.286	0.0020	0.0032	0.0019
	63	$M_{60}N_{10}E_{00}$		0.286	0.0033	0.0019	0.0032
	70	$M_{65}N_{10}E_{00}$		0.285	0.0040	0.0012	0.0041
	66	$M_{70}N_{10}E_{00}$		0.286	0.0031	0.0047	0.0030
12	81	$M_{56}N_{10}E_{00}$	4.98	0.055	0.0048	−0.0018	0.0047
	78	$M_{60}N_{10}E_{00}$		0.055	0.0098	−0.0042	0.0098
	75	$M_{70}N_{10}E_{00}$		0.054	0.0035	−0.0021	0.0035
13	82	$M_{56}N_{10}E_{00}$	5.04	0.105	0.0033	−0.0002	0.0032
	79	$M_{60}N_{10}E_{00}$		0.104	0.0054	−0.0007	0.0054
	76	$M_{70}N_{10}E_{00}$		0.104	0.0021	0.0004	0.0021
14	83	$M_{56}N_{10}E_{00}$	5.06	0.263	0.0035	0.0010	0.0034
	80	$M_{60}N_{10}E_{00}$		0.264	0.0051	0.0004	0.0050
	77	$M_{70}N_{10}E_{00}$		0.262	0.0020	0.0013	0.0019
15	84	$M_{56}N_{10}E_{00}$	4.00	0.105	0.0012	0.0019	0.0011
	86	$M_{60}N_{10}E_{00}$		0.104	−0.0006	0.0043	−0.0006
	88	$M_{70}N_{10}E_{00}$		0.105	0.0031	−0.0003	0.0030
16	85	$M_{56}N_{10}E_{00}$	4.04	0.253	0.0016	0.0018	0.0017
	87	$M_{60}N_{10}E_{00}$		0.258	0.0009	0.0031	0.0009
	89	$M_{70}N_{10}E_{00}$		0.259	0.0019	0.0014	0.0019

Table A-1 (contd)

Test 20-641:

Plot No.	Run No.	Configuration No.	Mach No.	Re/in. $\times 10^{-6}$	Delta Values		
					CN3	*CM3*	*CN5*
1	58	$M_{60}N_{10}E_{00}$	2.22	0.296	0.0039	0.0007	0.0037
1	53	$M_{70}N_{10}E_{00}$	2.22	0.295	−0.0003	0.0006	−0.0003
2	98	$M_{56}N_{10}E_{00}$	2.21	0.095	0.0012	0.0015	0.0012
↓	95	$M_{65}N_{10}E_{00}$	↓	0.096	0.0013	0.0009	0.0012
↓	55	$M_{70}N_{10}E_{00}$	↓	0.095	−0.0030	0.0018	−0.0030
3	61	$M_{60}N_{10}E_{00}$	2.20	0.049	0.0004	0.0013	0.0004
3	100	$M_{70}N_{10}E_{00}$	2.20	0.048	−0.0015	−0.0002	−0.0015
4	43	$M_{60}N_{10}E_{00}$	3.02	0.367	0.0040	0.0005	0.0039
4	48	$M_{70}N_{10}E_{00}$	3.02	0.365	−0.0005	0.0007	−0.0006
5	92	$M_{56}N_{10}E_{00}$	3.01	0.103	0.0001	0.0020	0.0001
↓	94	$M_{65}N_{10}E_{00}$	↓	0.103	−0.0020	0.0035	−0.0020
↓	50	$M_{70}N_{10}E_{00}$	↓	0.103	−0.0040	0.0026	−0.0039
6	47	$M_{60}N_{10}E_{00}$	3.00	0.064	−0.0025	0.0024	−0.0025
6	88	$M_{70}N_{10}E_{00}$	3.00	0.063	−0.0058	0.0036	−0.0058
7	28	$M_{60}N_{10}E_{00}$	4.00	0.372	0.0017	0.0020	0.0016
7	86	$M_{70}N_{10}E_{00}$	4.00	0.363	−0.0017	0.0019	−0.0017
8	84	$M_{70}N_{10}E_{00}$	3.98	0.108	−0.0019	0.0009	−0.0018
9	82	$M_{60}N_{10}E_{00}$	4.01	0.028	−0.0071	0.0059	−0.0071
9	85	$M_{70}N_{10}E_{00}$	4.01	0.028	−0.0003	−0.0025	−0.0003

Table A-2. Coefficient repeatability

Tests 20-622 and 21-192:

Mach No.	Re/in. × 10^{-6}	Coefficient			
		Cc	CN	CM	C_{PB}
2.2	0.31	0.001	0.001	0.001	0.005
↓	0.10	0.003	0.001	0.001	↓
	0.05	0.005	0.002	0.001	
3.0	0.37	0.001	0.001	0.001	
↓	0.10	0.005	0.001	0.001	
	0.06	0.003	0.002	0.002	
4.0	0.37	0.001	0.001	0.001	0.008
4.0	0.10	0.002	0.002	0.001	0.008
6.0	0.28	0.001	0.001	0.001	0.009
↓	0.11	0.002	0.002	0.001	↓
	0.02	0.011	0.007	0.004	
9.5	0.11	0.003	0.0021	0.002	
9.5	0.02	0.009	0.0074	0.005	

Test 21-192B:

Mach No.	Re/in. × 10^{-6}	Coefficient		
		Cc	CN	CM
4.1	0.26	0.004	0.001	0.003
4.1	0.10	0.005	0.002	0.001
5.0	0.26	0.002	0.001	0.001
↓	0.10	0.010	0.002	0.001
	0.05	0.010	0.003	0.002

Table A-2 (contd)

Test 21-192B: (contd)

Mach No.	Re/in. × 10^{-6}	Coefficient		
		Cc	CN	CM
6.0	0.29	0.002	0.002	0.001
↓	0.11	0.003	0.002	0.001
	0.02	0.008	0.006	0.003
7.25	0.26	0.004	0.002	0.001
↓	0.11	0.002	0.002	0.002
	0.03	0.008	0.006	0.003
9.5	0.11	0.005	0.002	0.002
9.5	0.04	0.006	0.004	0.003

Test 20-641:

Mach No.	Re/in. × 10^{-6}	Coefficient			
		Cc	CN	CM	C_{PB}
2.2	0.29	0.001	0.001	0.001	0.005
↓	0.10	0.006	0.002	0.001	↓
	0.05	0.009	0.003	0.001	
3.0	0.37	0.001	0.001	0.001	
↓	0.10	0.004	0.002	0.004	
	0.06	0.006	0.003	0.001	
4.0	0.37	0.001	0.001	0.001	0.008
↓	0.11	0.003	0.002	0.001	↓
	0.03	0.010	0.009	0.003	

Nomenclature

General:

A	reference area, based upon model maximum diameter
$CA_{(\alpha=0)}$	axial-force coefficient at zero angle of attack
C_M	pitching-moment coefficient
C_N	normal-force coefficient
$C_{N\alpha}$	slope of normal force coefficient per deg
C_{PB}	base-pressure coefficient, $(P_b - P)/q$
D	base diameter
M	Mach number
P	free-stream static pressure
P_b	base pressure
q	dynamic pressure
R_{edge}	radius of the edge of the configuration
R_N	radius of the nose of the configuration
Re/in.	Reynolds number per inch
X_{cp}/D	center-of-pressure position measured from the physical nose; negative aft
a	angle of attack

Configuration:

$M_{(\ )}$	cone-half angle of ( ) degrees
$N_{(\ )}$	nose radius of ( ) % of the model diameter
$E_{(\ )}$	edge radius of ( ) % of the model diameter

Example: Configuration $M_{60}N_{10}E_{05}$ is a blunt cone with a 60-deg half-angle, nose radius of 0.10 D and edge radius of 0.05 D.

Appendix:

A	reference area (12.566 in.^{2})
$CC3$	axial-force coefficient, (axial force)/qA, (body axis)
$CC5$	drag coefficient, $CC3 \cos \alpha + CN3 \sin \alpha$, (stability axis)
$CM3$	pitching-moment coefficient about reference point at physical nose of the model, (pitching moment)/qAD, (body axis)
$CN3$	normal-force coefficient, (normal force)/qA, (body axis)
$CN5$	lift coefficient, $CN3 \cos \alpha - CC3 \sin \alpha$, (stability axis)
C_{PB}	base-pressure coefficient, $(P_b - P)/q$
D	reference length (4.000 in.)
M	Mach number
P	static pressure (psi)
P_b	base pressure (psi)
q	free-stream dynamic pressure (psi)
Re/in.	Reynolds number per inch
α	angle of attack (deg)

References

1. Staff, Wind Tunnel, *Jet Propulsion Laboratory Wind-Tunnel Facilities*, Technical Memorandum 33-335, Jet Propulsion Laboratory, Pasadena, Calif., April 1, 1967.
2. Nichols, James O., and Nierengarten, Edward A., *Aerodynamic Characteristics of Blunt Bodies*, Technical Report 32-677, Jet Propulsion Laboratory, Pasadena, Calif., November 19, 1964.

Plots

The following pages contain facsimiles of the plots for wind-tunnel tests 20-622, 21-192, 21-192B, and 20-641, respectively.

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Test 20-622

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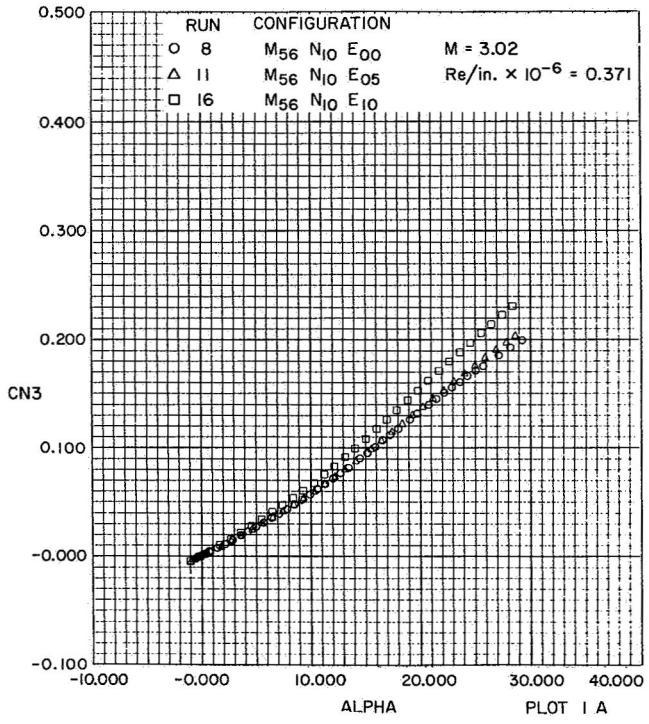
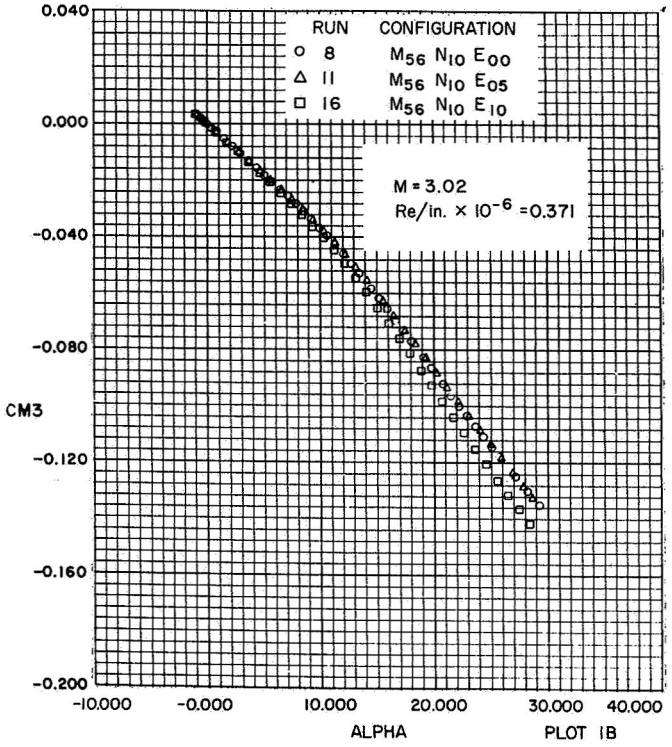
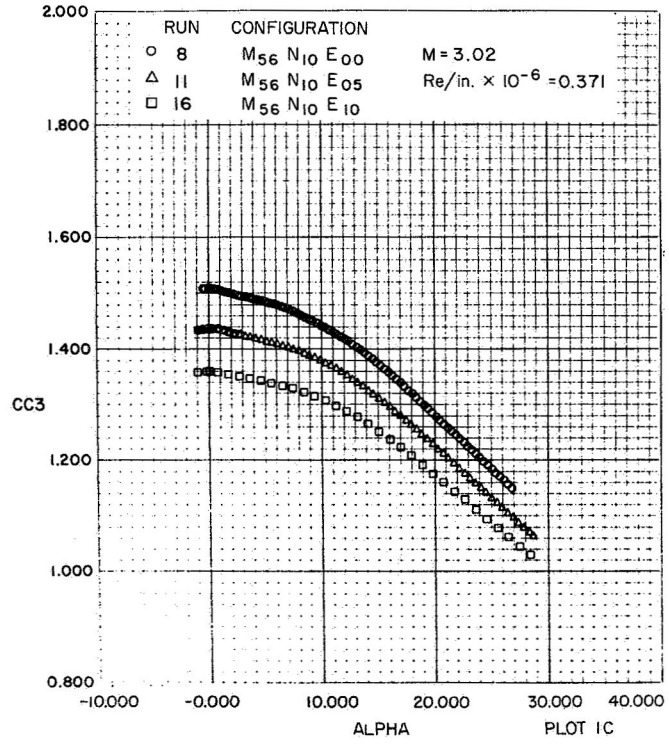
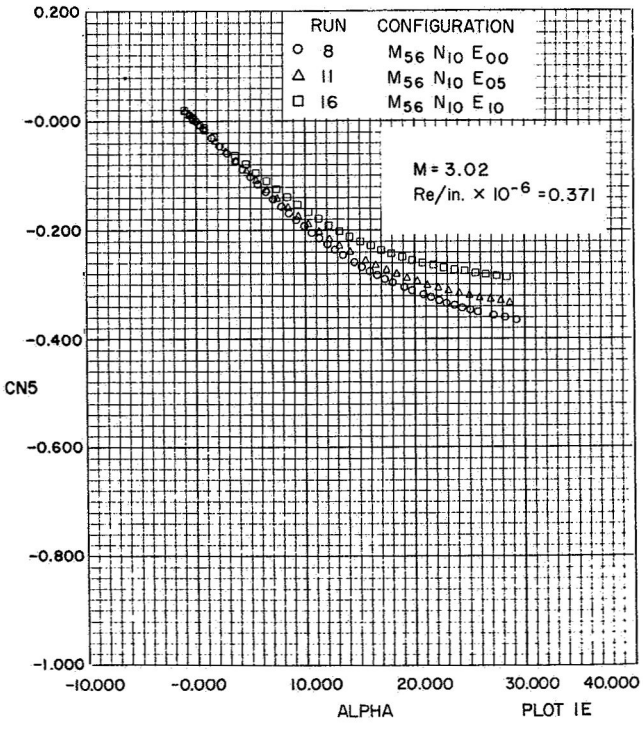
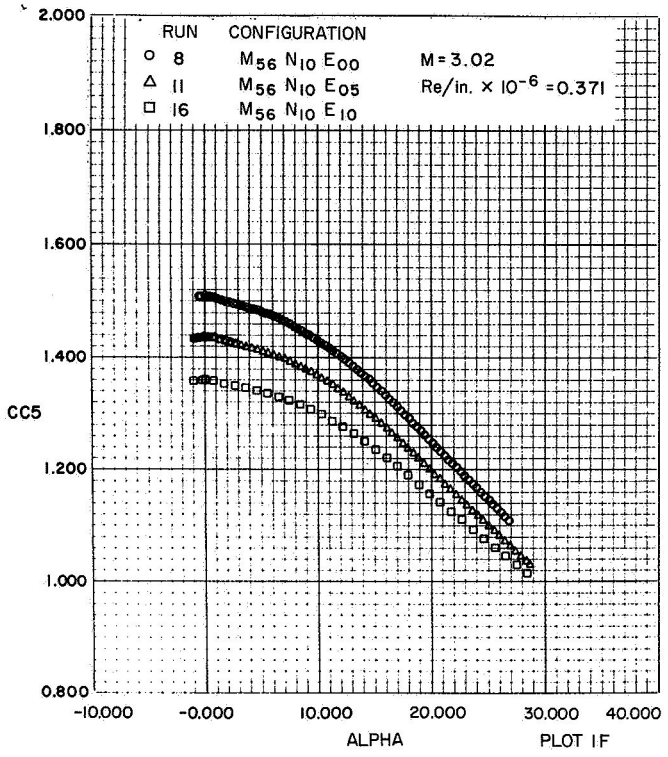

RUN CONFIGURATION
○ 8 M_{56} N_{10} E_{00} M = 3.02
△ 11 M_{56} N_{10} E_{05} Re/in. × 10^{-6} = 0.371
□ 16 M_{56} N_{10} E_{10}
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 1 A


RUN CONFIGURATION
○ 8 M_{56} N_{10} E_{00}
△ 11 M_{56} N_{10} E_{05}
□ 16 M_{56} N_{10} E_{10}
M = 3.02
Re/in. × 10^{-6} = 0.371
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 1B


RUN CONFIGURATION
○ 8 M_{56} N_{10} E_{00} M = 3.02
△ 11 M_{56} N_{10} E_{05} Re/in. × 10^{-6} = 0.371
□ 16 M_{56} N_{10} E_{10}
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 1C


RUN CONFIGURATION
○ 8 M_{56} N_{10} E_{00}
△ 11 M_{56} N_{10} E_{05}
□ 16 M_{56} N_{10} E_{10}
M = 3.02
Re/in. × 10^{-6} = 0.371
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 1E


RUN CONFIGURATION
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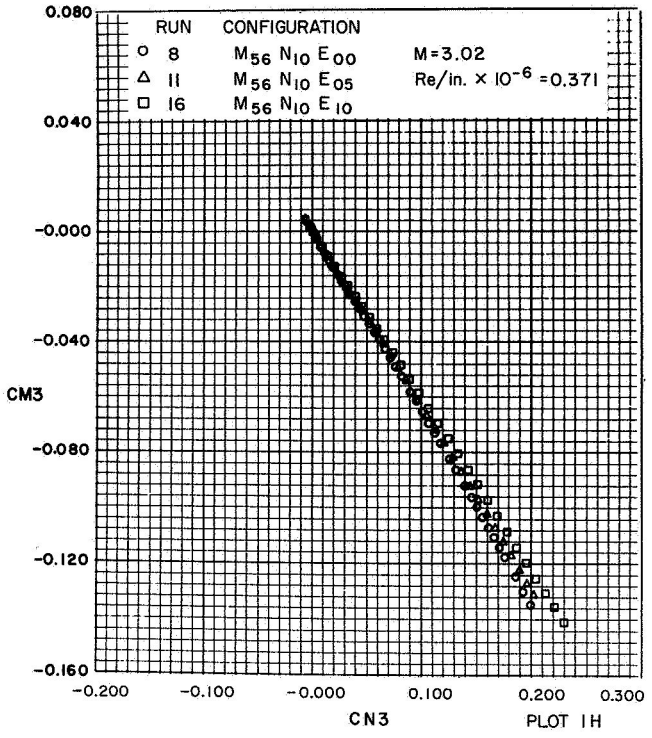
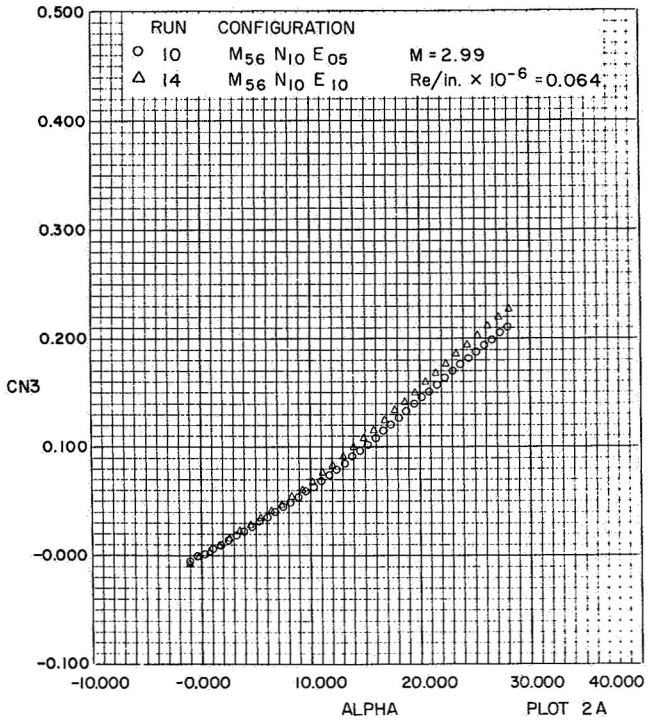
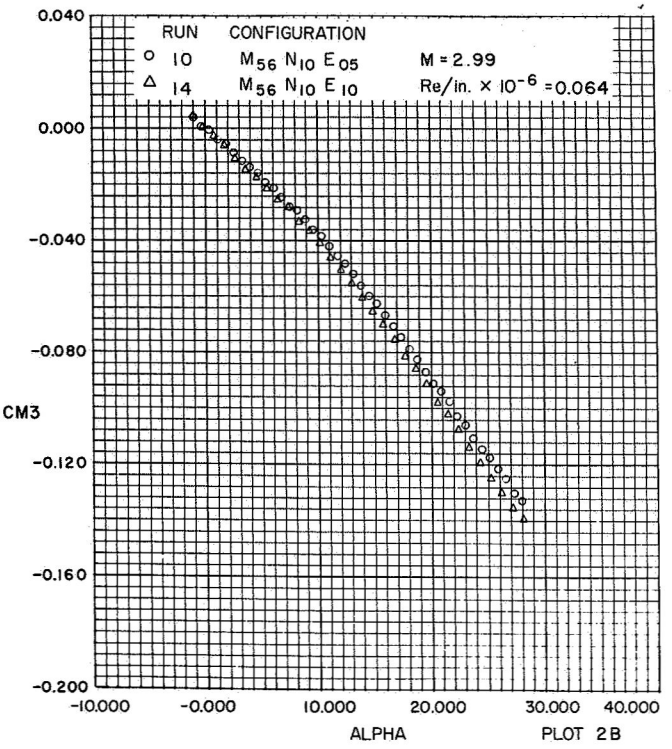
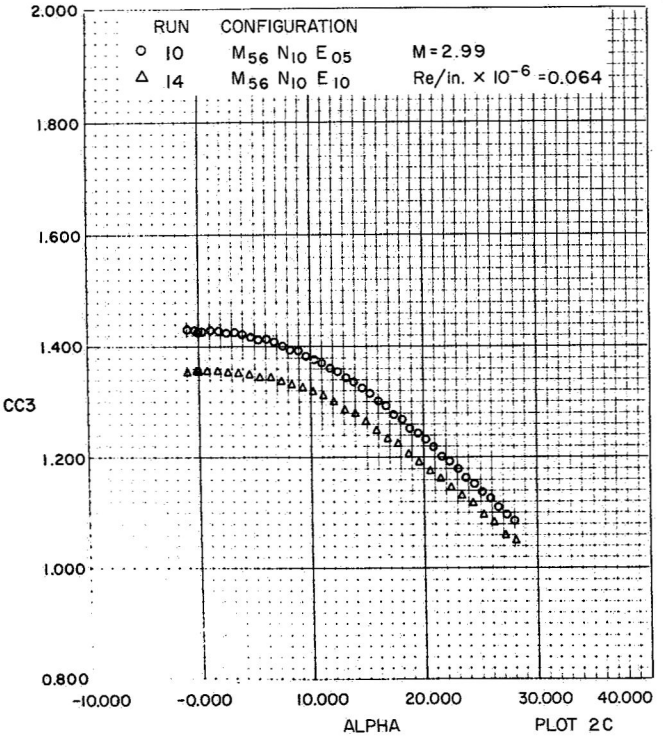
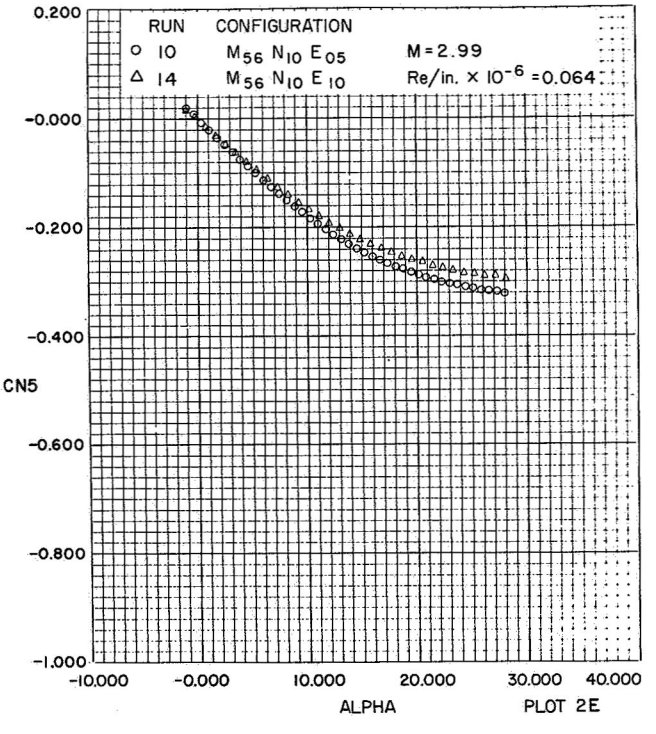
11 M56 N10 E05
16 M56 N10 E10
M=3.02
Re/in. × 10-6 =0.371
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT IF

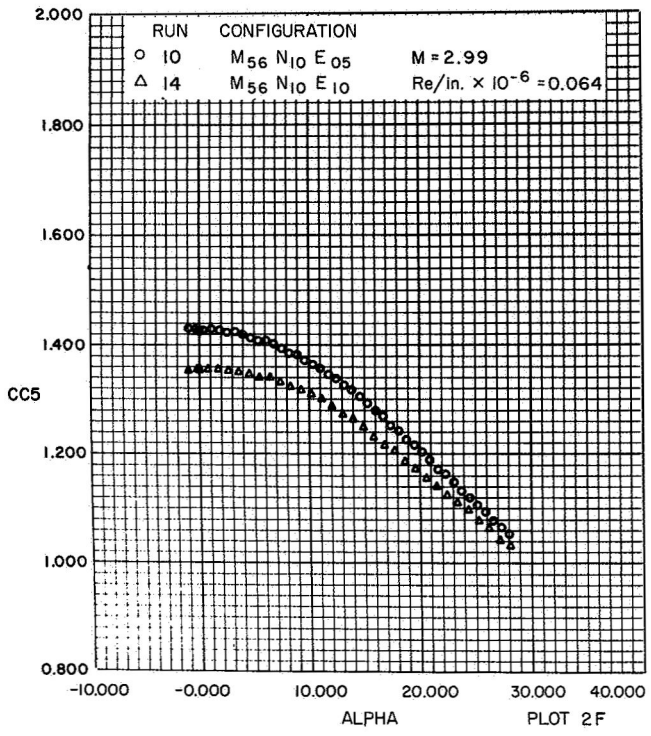

RUN CONFIGURATION
8 M56 N10 E00
11 M56 N10 E05
16 M56 N10 E10
M=3.02
Re/in. × 10-6 =0.371
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT IH

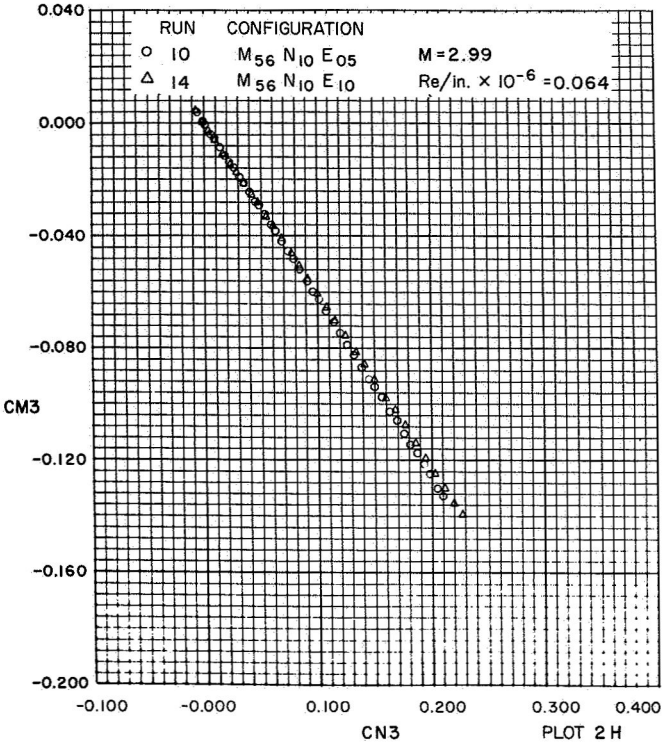

RUN CONFIGURATION
○ 10 M_{56} N_{10} E_{05} M = 2.99
△ 14 M_{56} N_{10} E_{10} Re/in. × 10^{-6} = 0.064
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
CN3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2A

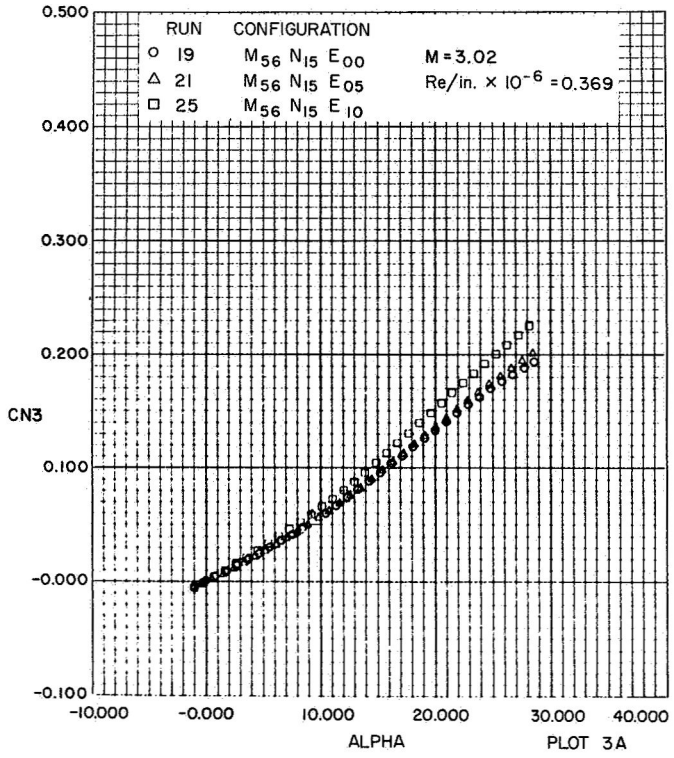

RUN CONFIGURATION
○ 10 M_{56} N_{10} E_{05} M = 2.99
△ 14 M_{56} N_{10} E_{10} Re/in. × 10^{-6} = 0.064
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2B

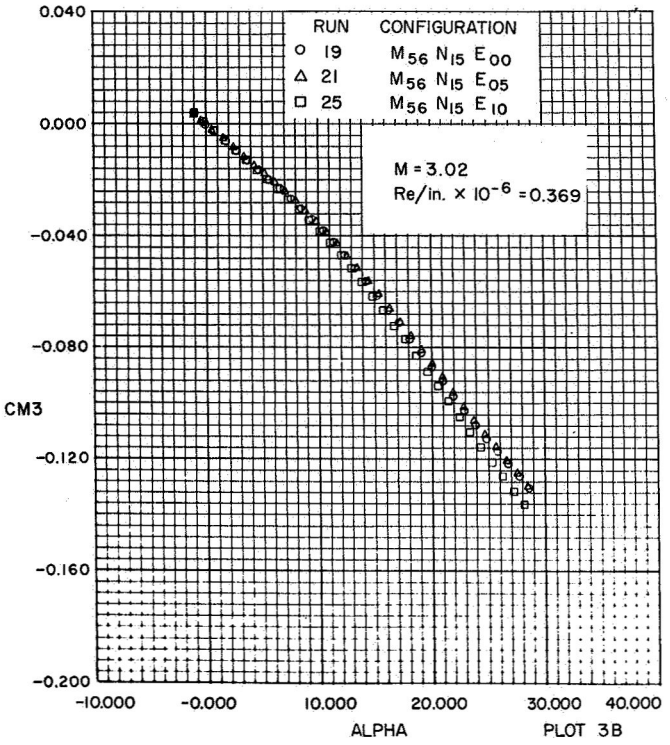

RUN CONFIGURATION
○ 10 M_{56} N_{10} E_{05} M = 2.99
△ 14 M_{56} N_{10} E_{10} Re/in. × 10^{-6} = 0.064
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2C

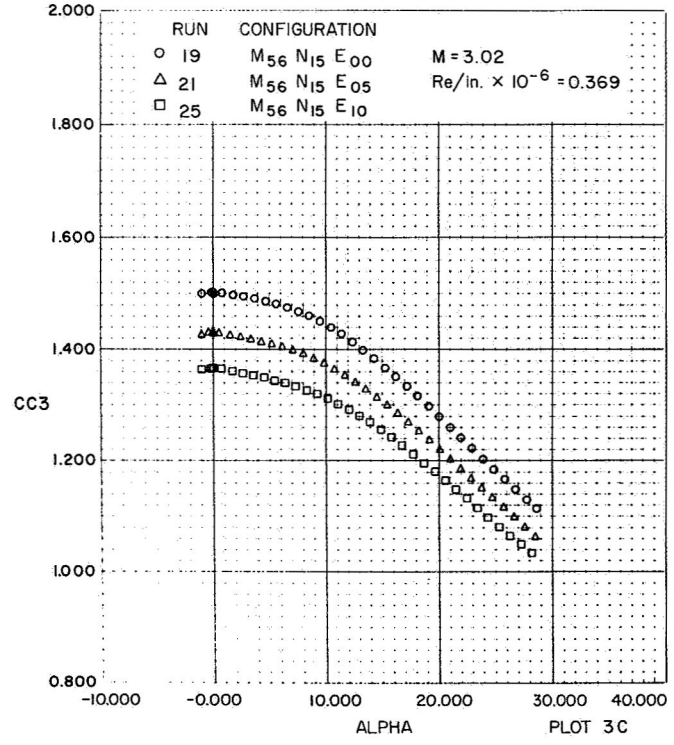

RUN CONFIGURATION
○ 10 M_{56} N_{10} E_{05} M = 2.99
△ 14 M_{56} N_{10} E_{10} Re/in. × 10^{-6} = 0.064
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
CN5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2E

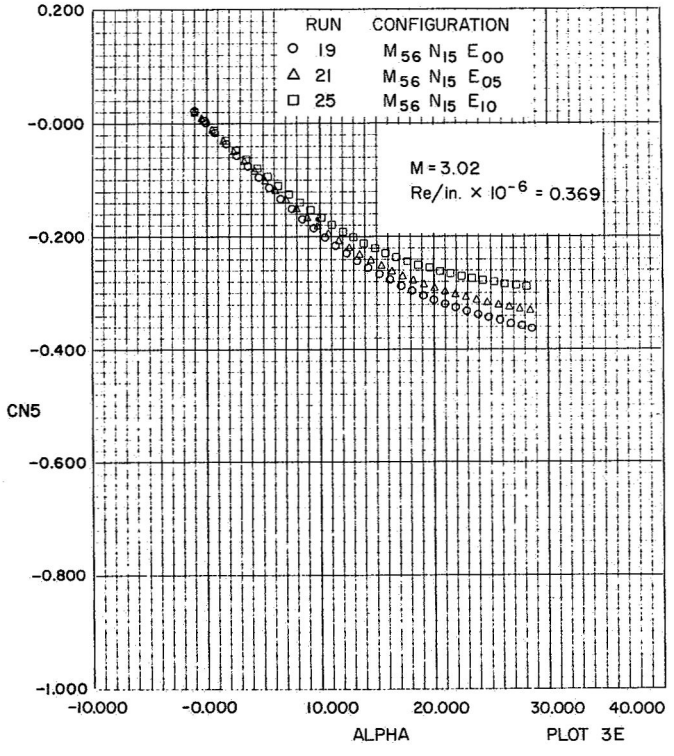

RUN CONFIGURATION
o 10 M56 N10 E05 M=2.99
Δ 14 M56 N10 E10 Re/in. × 10-6 =0.064
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2F

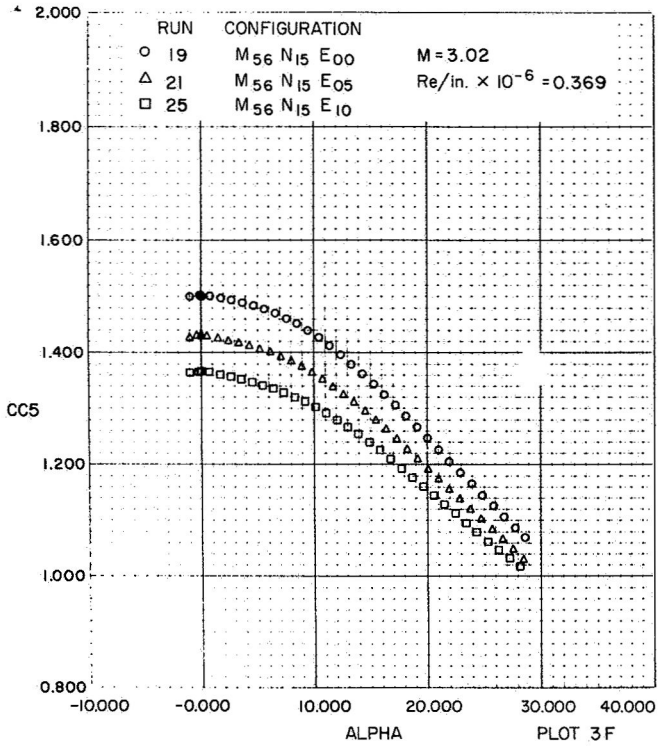

RUN CONFIGURATION
o 10 M56 N10 E05 M=2.99
Δ 14 M56 N10 E10 Re/in. × 10-6 =0.064
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 2H

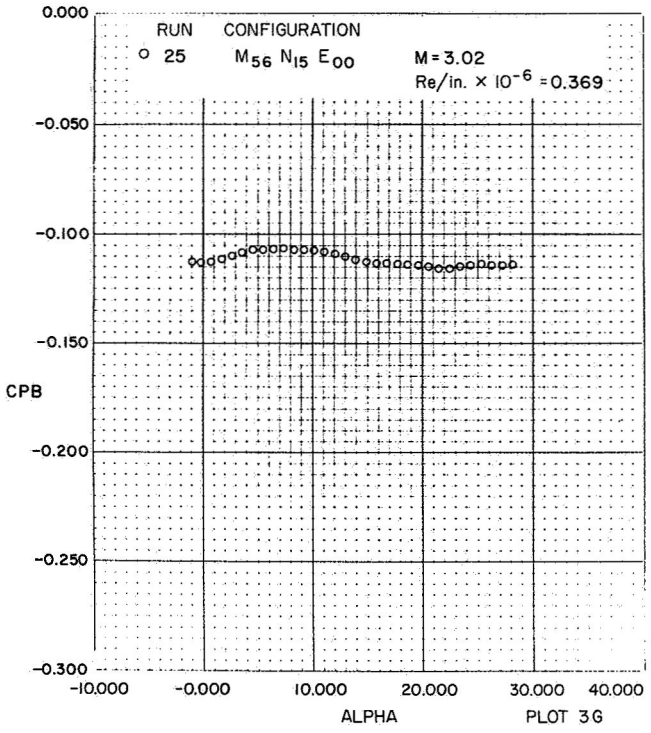

RUN CONFIGURATION
o 19 M56 N15 E00
Δ 21 M56 N15 E05
□ 25 M56 N15 E10
M=3.02
Re/in. × 10⁻⁶ =0.369
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 3A

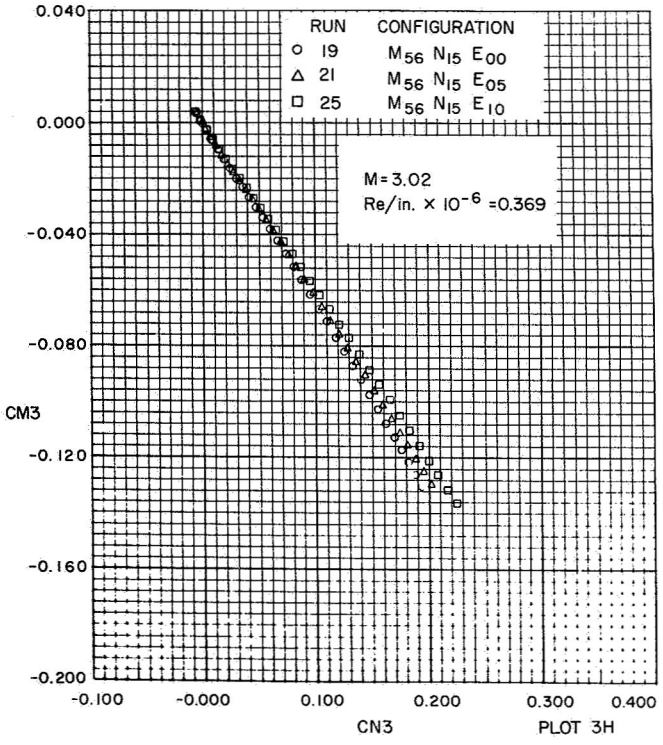

RUN CONFIGURATION
o 19 M56 N15 E00
Δ 21 M56 N15 E05
□ 25 M56 N15 E10
M=3.02
Re/in. × 10⁻⁶ =0.369
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 3B

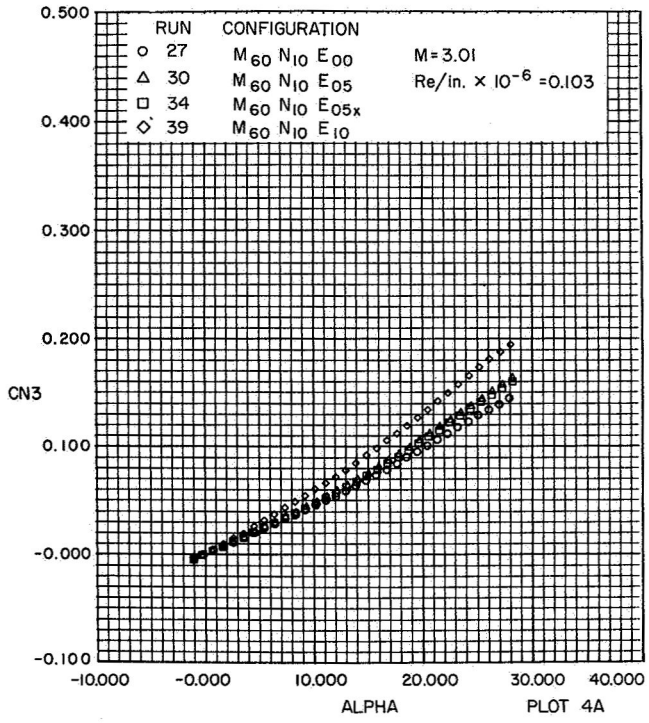

RUN CONFIGURATION
o 19 M56 N15 E00
Δ 21 M56 N15 E05
□ 25 M56 N15 E10
M=3.02
Re/in. × 10⁻⁶ =0.369
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 3C


RUN CONFIGURATION
o 19 M56 N15 E00
Δ 21 M56 N15 E05
□ 25 M56 N15 E10
M=3.02
Re/in. × 10⁻⁶ = 0.369
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 3E

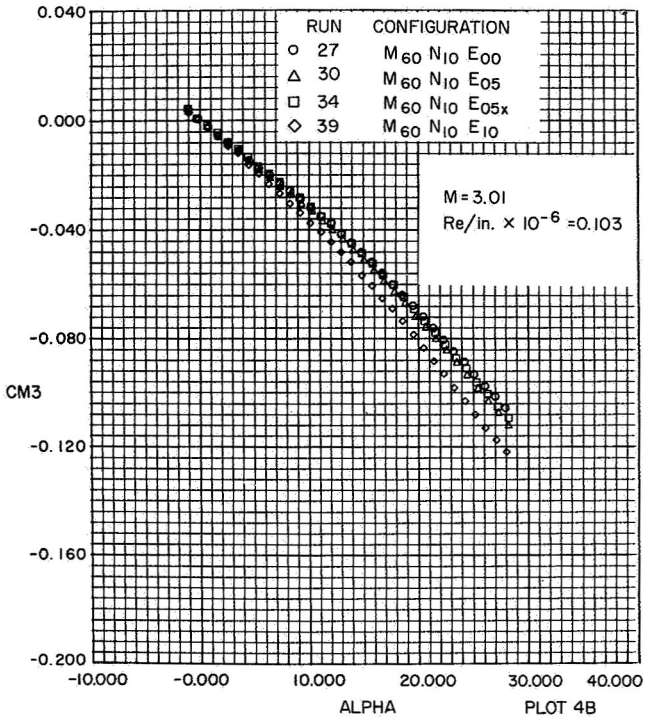

RUN CONFIGURATION
○ 19 M56 N15 E00
△ 21 M56 N15 E05
□ 25 M56 N15 E10
M=3.02
Re/in. × 10⁻⁶ =0.369
CC5
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 3F


RUN CONFIGURATION
○ 25 M56 N15 E00
M=3.02
Re/in. × 10⁻⁶ =0.369
CPB
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 3G

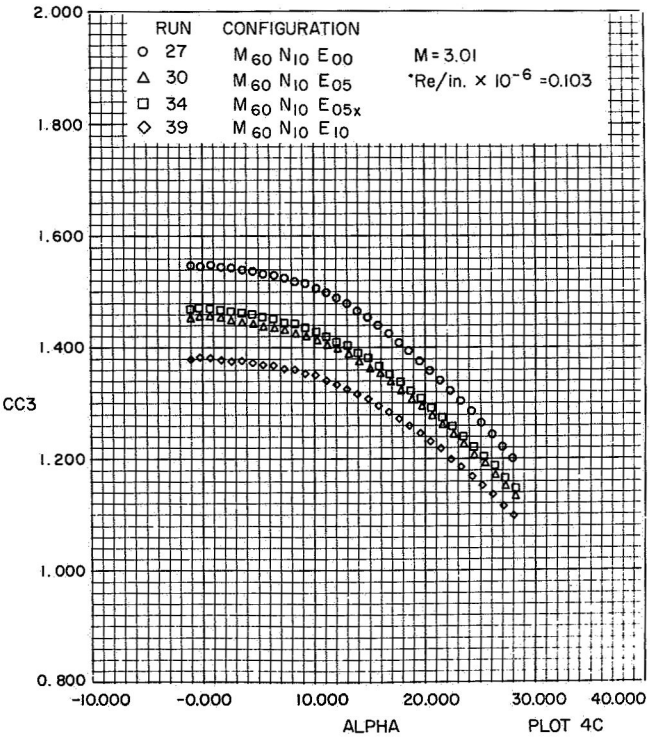

RUN CONFIGURATION
○ 19 M56 N15 E00
△ 21 M56 N15 E05
□ 25 M56 N15 E10
M=3.02
Re/in. × 10⁻⁶ =0.369
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 3H



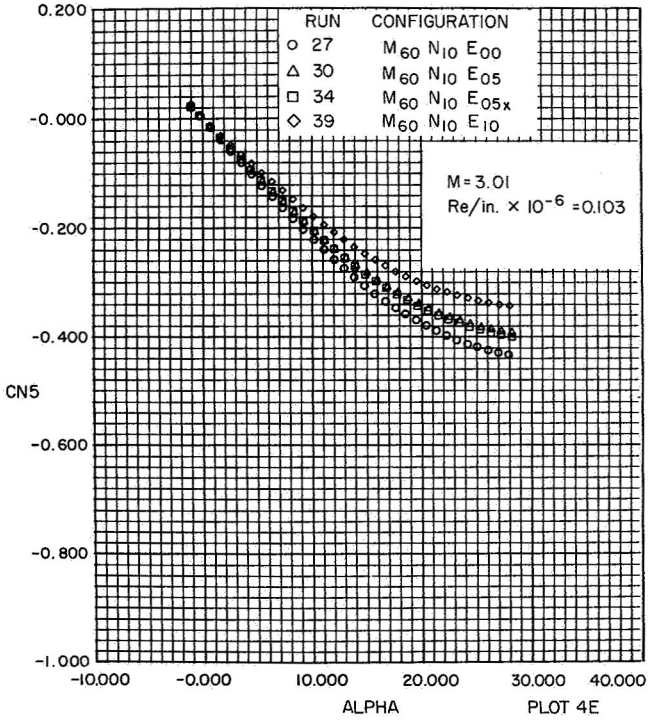
PLOT 4A



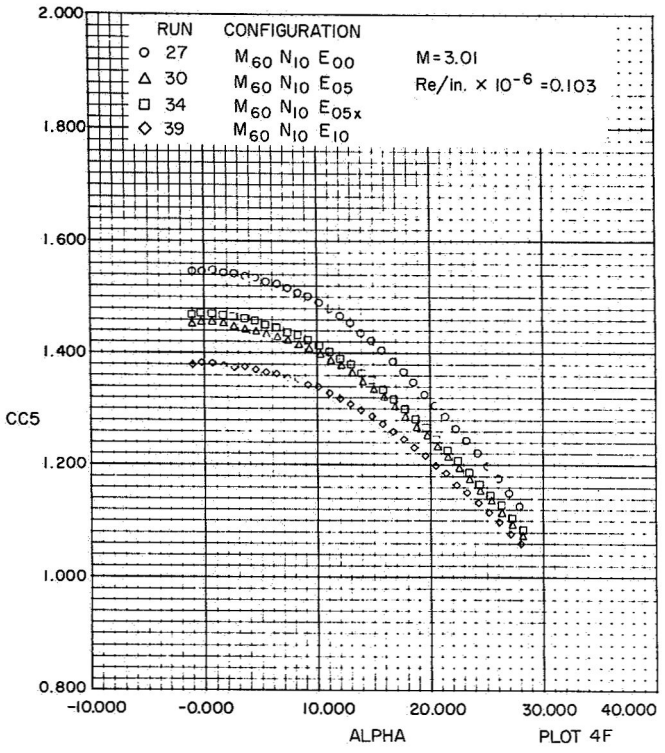
PLOT 4B

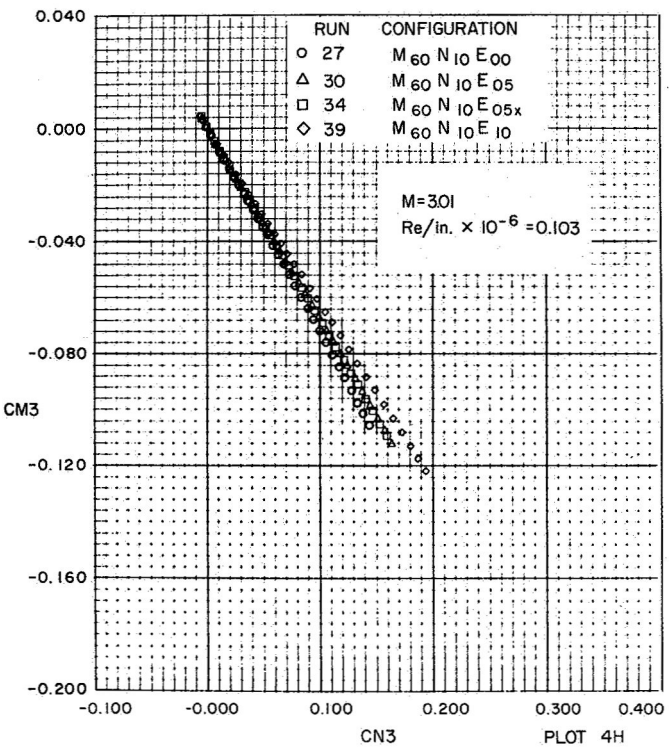


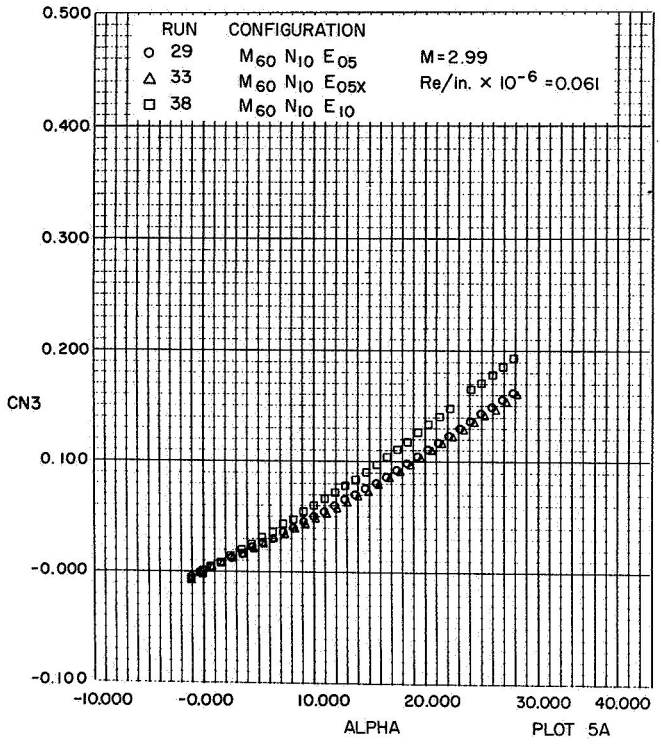
PLOT 4C

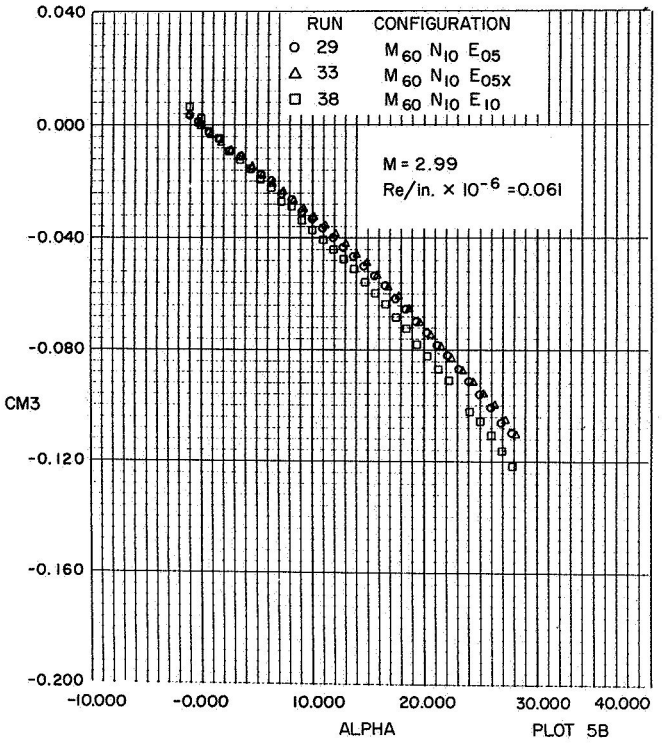


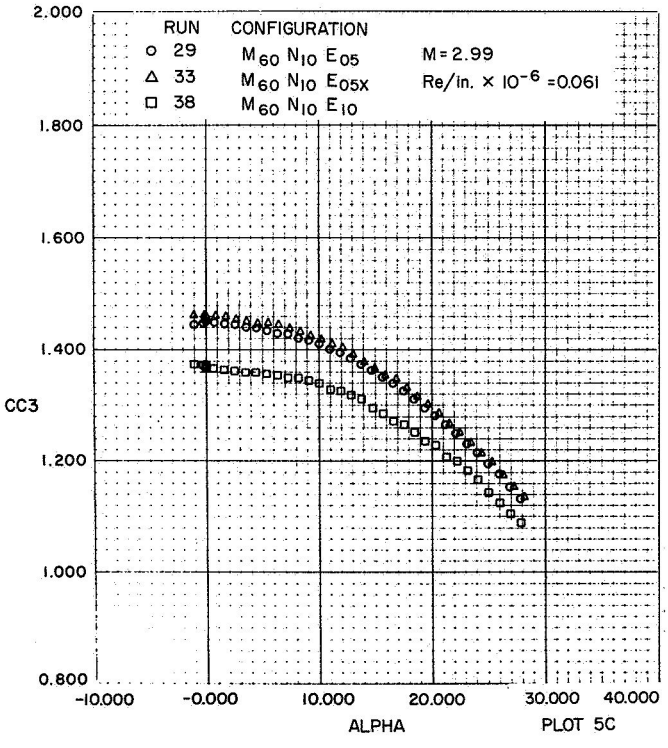
PLOT 4E

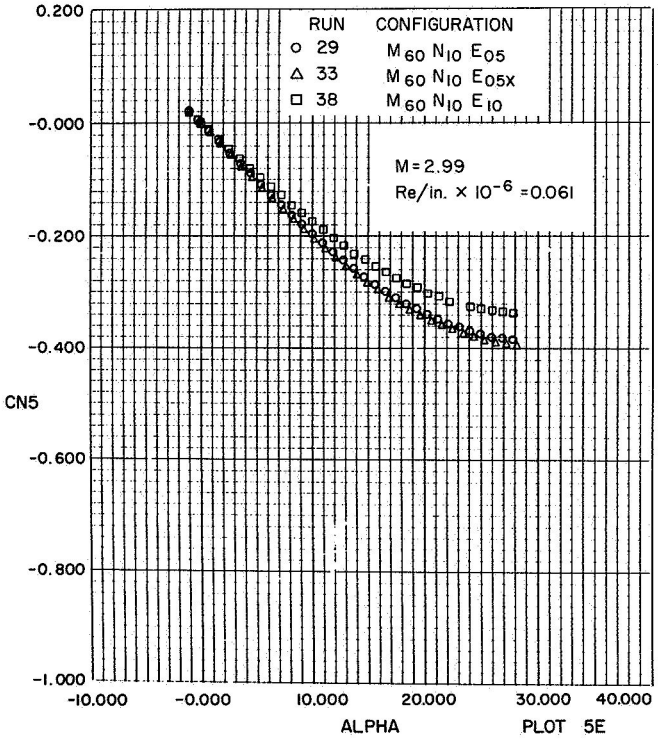

RUN CONFIGURATION
27 $M_{60} N_{10} E_{00}$
30 $M_{60} N_{10} E_{05}$
34 $M_{60} N_{10} E_{05x}$
39 $M_{60} N_{10} E_{10}$
M=3.01
Re/in. × 10^{-6} =0.103
CC5
ALPHA
PLOT 4F

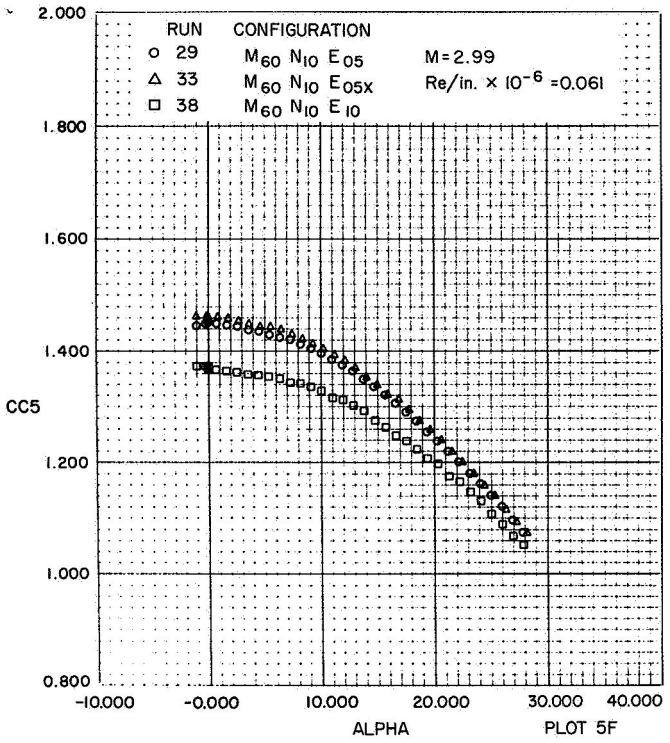

RUN CONFIGURATION
27 $M_{60} N_{10} E_{00}$
30 $M_{60} N_{10} E_{05}$
34 $M_{60} N_{10} E_{05x}$
39 $M_{60} N_{10} E_{10}$
M=3.01
Re/in. × 10^{-6} =0.103
CM3
CN3
PLOT 4H

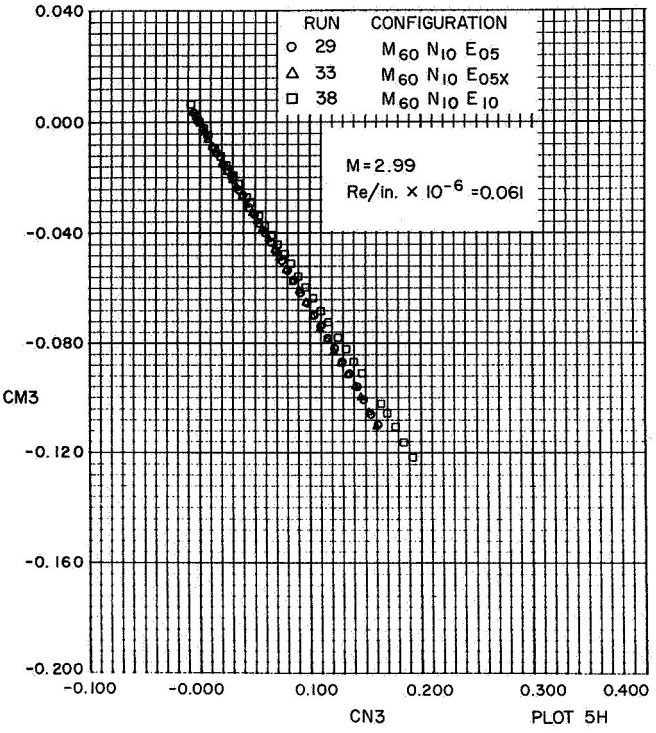

RUN CONFIGURATION
o 29 M60 N10 E05
Δ 33 M60 N10 E05X
□ 38 M60 N10 E10
M=2.99
Re/in. × 10-6 =0.061
CN3
ALPHA
PLOT 5A

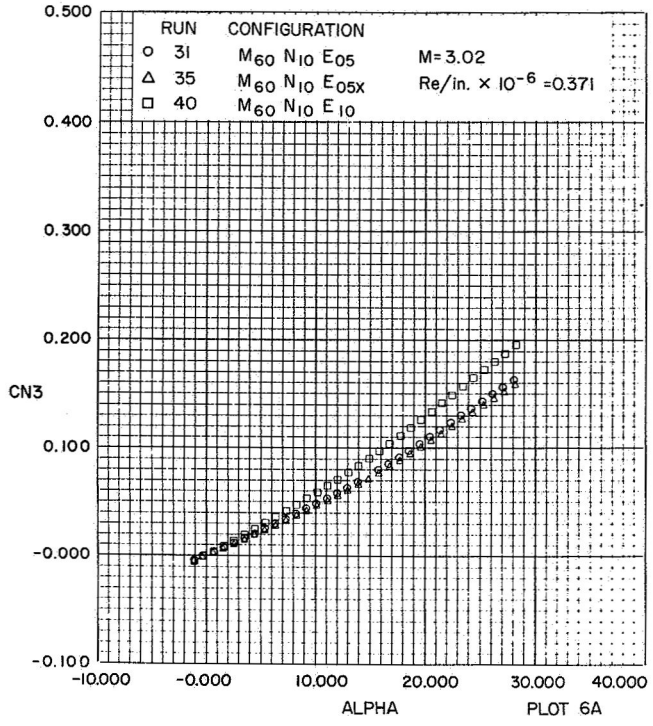

RUN CONFIGURATION
o 29 M60 N10 E05
Δ 33 M60 N10 E05X
□ 38 M60 N10 E10
M = 2.99
Re/in. × 10-6 =0.061
CM3
ALPHA
PLOT 5B

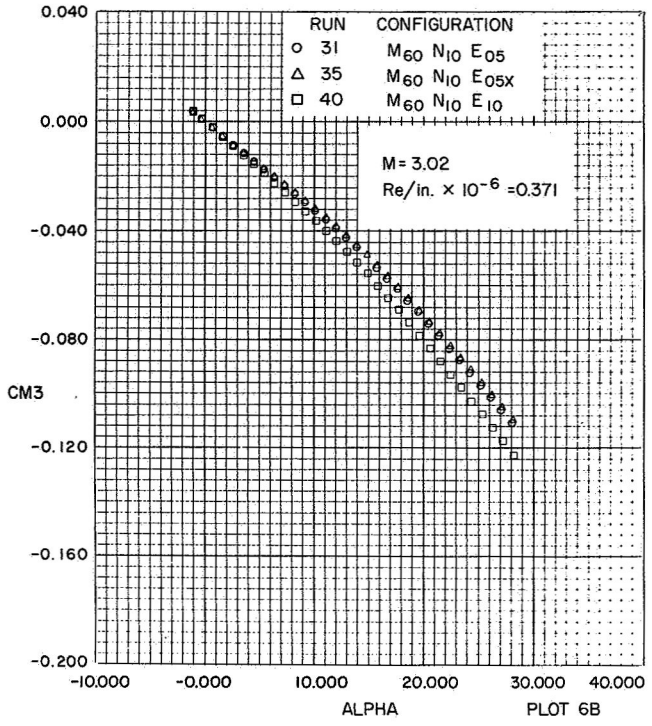

RUN CONFIGURATION
o 29 M60 N10 E05
Δ 33 M60 N10 E05X
□ 38 M60 N10 E10
M=2.99
Re/in. × 10-6 =0.061
CC3
ALPHA
PLOT 5C

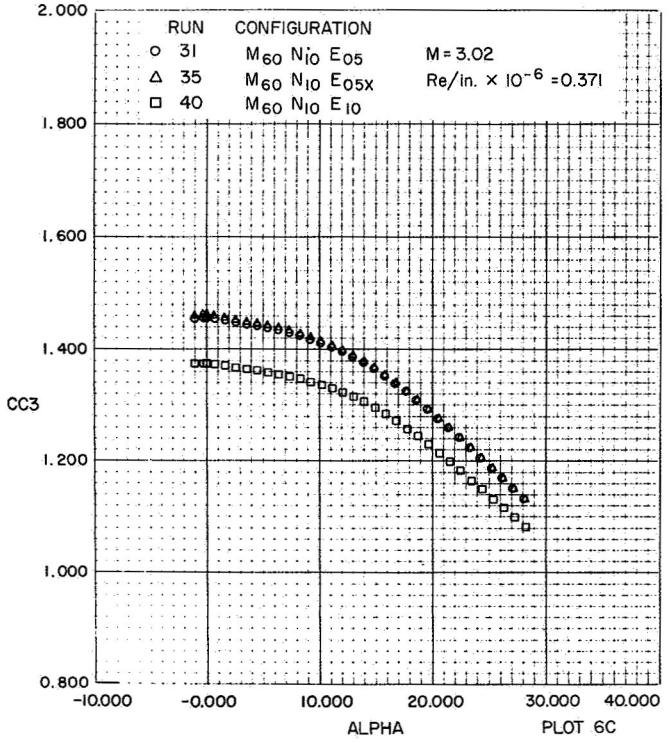

RUN CONFIGURATION
o 29 M60 N10 E05
Δ 33 M60 N10 E05X
□ 38 M60 N10 E10
M=2.99
Re/in. × 10-6 =0.061
CN5
ALPHA
PLOT 5E

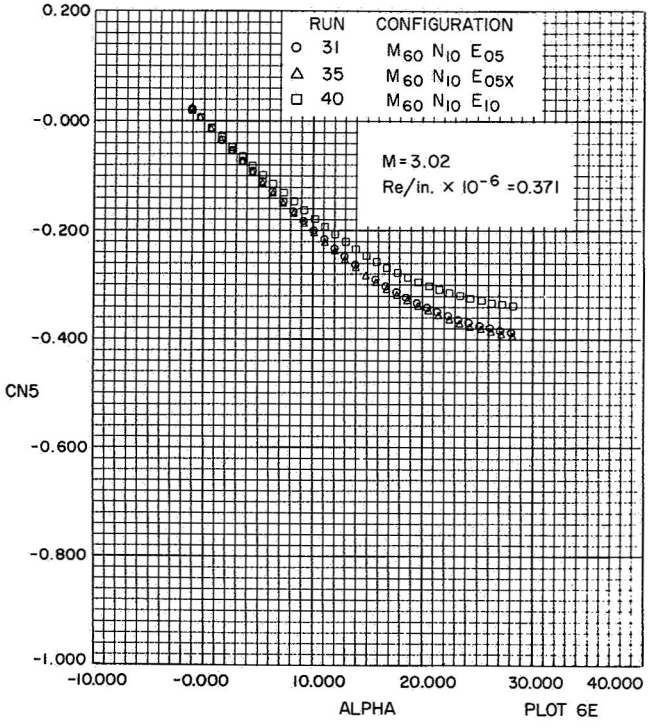

RUN CONFIGURATION
o 29 M60 N10 E05
Δ 33 M60 N10 E05X
□ 38 M60 N10 E10
M=2.99
Re/in. × 10⁻⁶ =0.061
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 5F

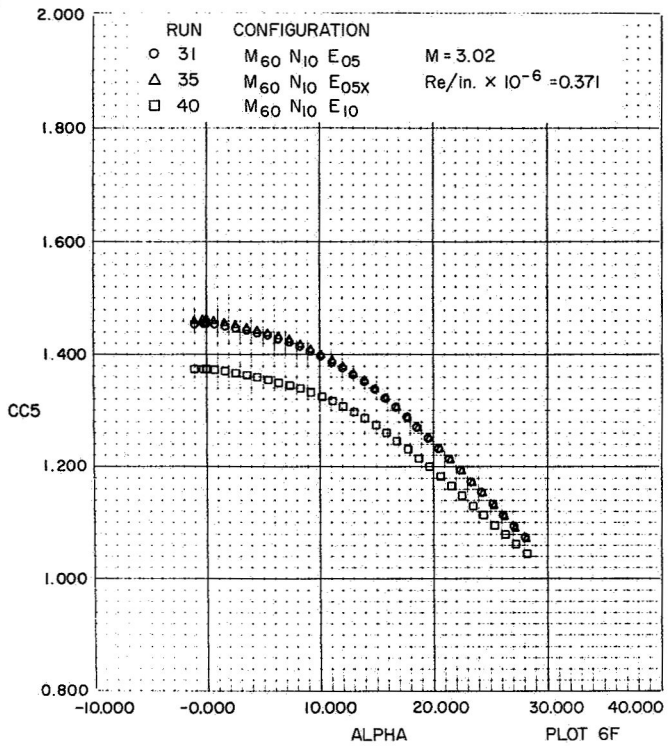

RUN CONFIGURATION
o 29 M60 N10 E05
Δ 33 M60 N10 E05X
□ 38 M60 N10 E10
M=2.99
Re/in. × 10⁻⁶ =0.061
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 5H

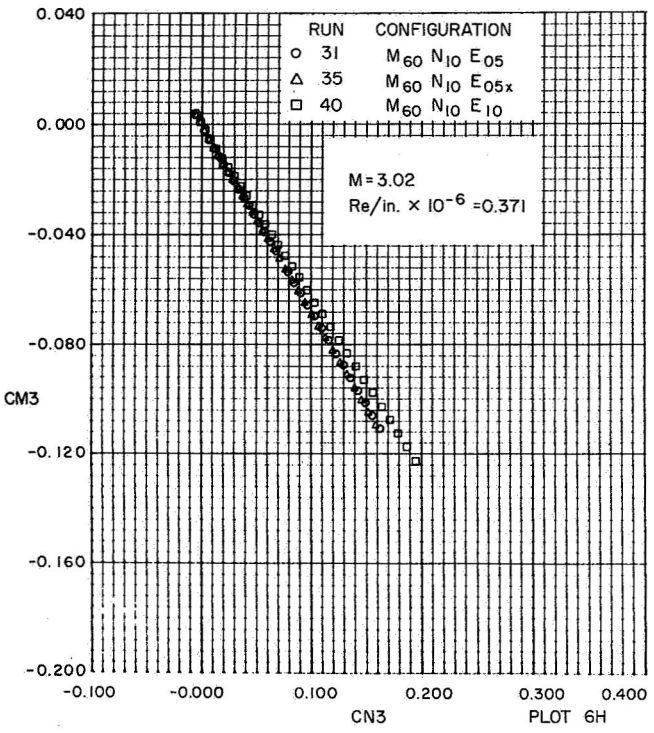

RUN CONFIGURATION
31 M_{60} N_{10} E_{05}
35 M_{60} N_{10} E_{05X}
40 M_{60} N_{10} E_{10}
M=3.02
Re/in. × 10^{-6} =0.371
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6A

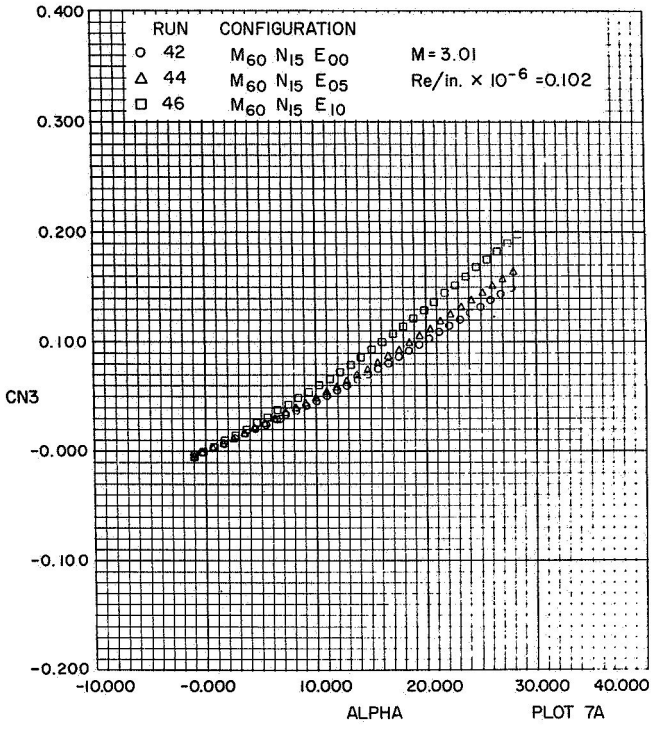

RUN CONFIGURATION
31 M_{60} N_{10} E_{05}
35 M_{60} N_{10} E_{05X}
40 M_{60} N_{10} E_{10}
M=3.02
Re/in. × 10^{-6} =0.371
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6B


RUN CONFIGURATION
31 M_{60} N_{10} E_{05}
35 M_{60} N_{10} E_{05X}
40 M_{60} N_{10} E_{10}
M=3.02
Re/in. × 10^{-6} =0.371
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6C

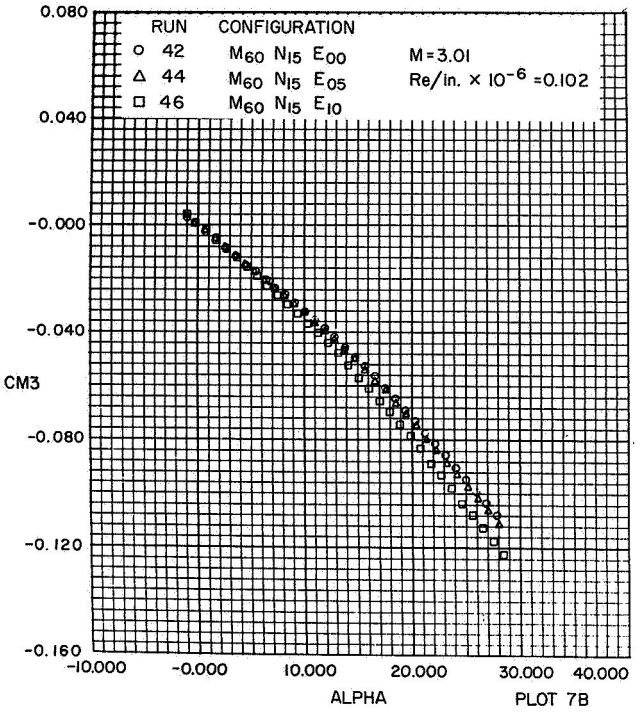

RUN CONFIGURATION
31 M_{60} N_{10} E_{05}
35 M_{60} N_{10} E_{05X}
40 M_{60} N_{10} E_{10}
M=3.02
Re/in. × 10^{-6} =0.371
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6E


RUN CONFIGURATION
o 31 M60 N10 E05
Δ 35 M60 N10 E05x
□ 40 M60 N10 E10
M = 3.02
Re/in. × 10-6 =0.371
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6F

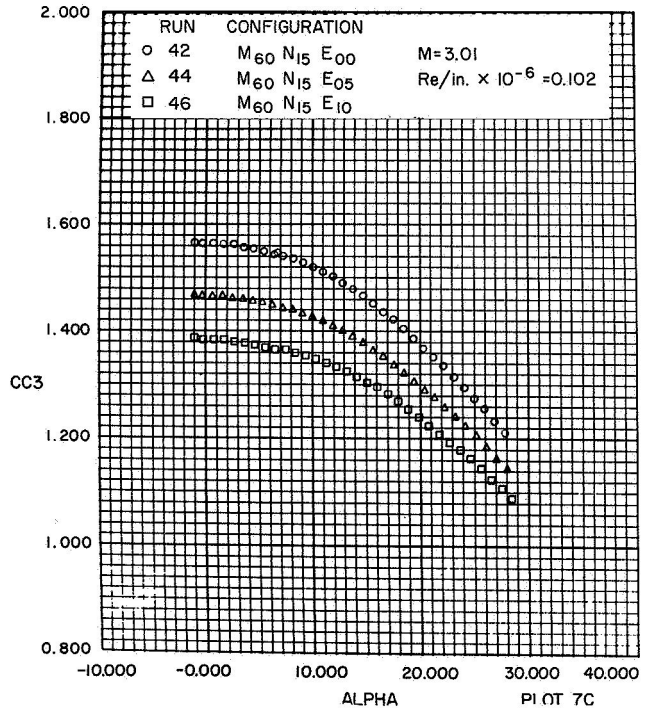

RUN CONFIGURATION
o 31 M60 N10 E05
Δ 35 M60 N10 E05x
□ 40 M60 N10 E10
M = 3.02
Re/in. × 10-6 =0.371
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 6H



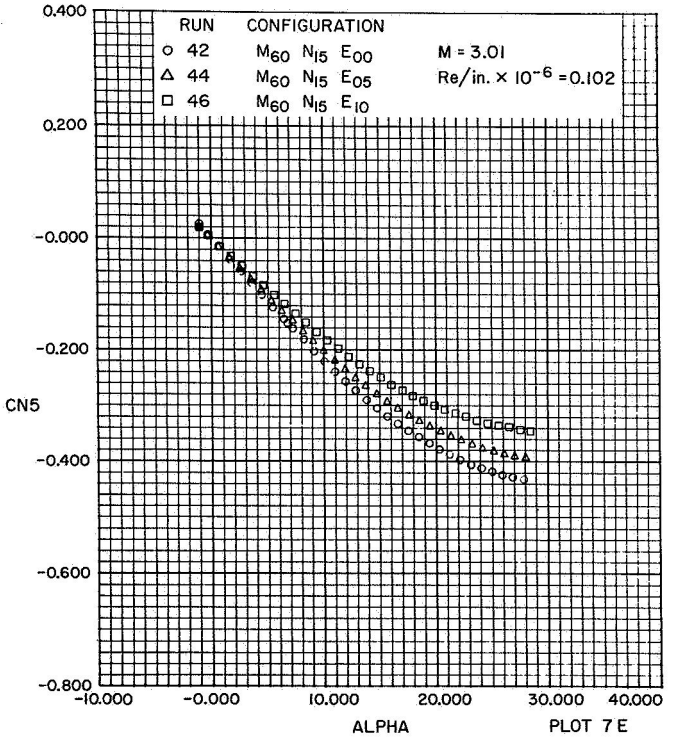
PLOT 7A



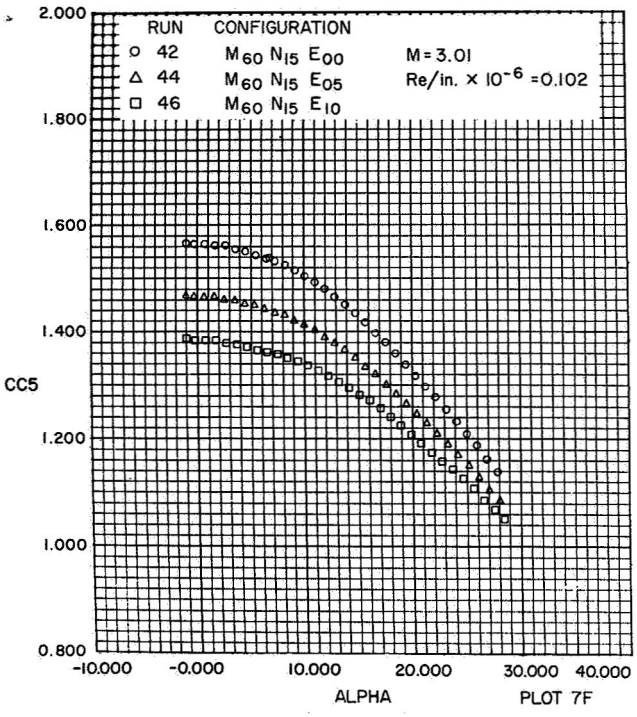
PLOT 7B

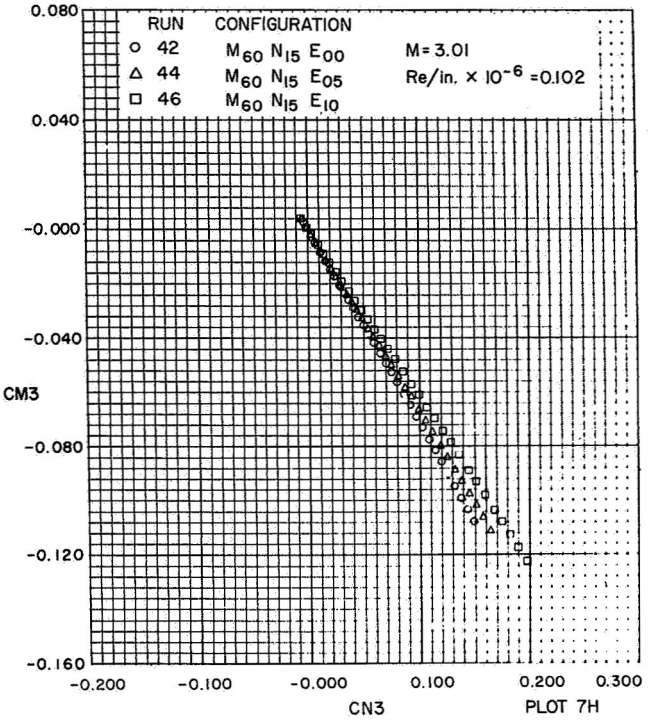


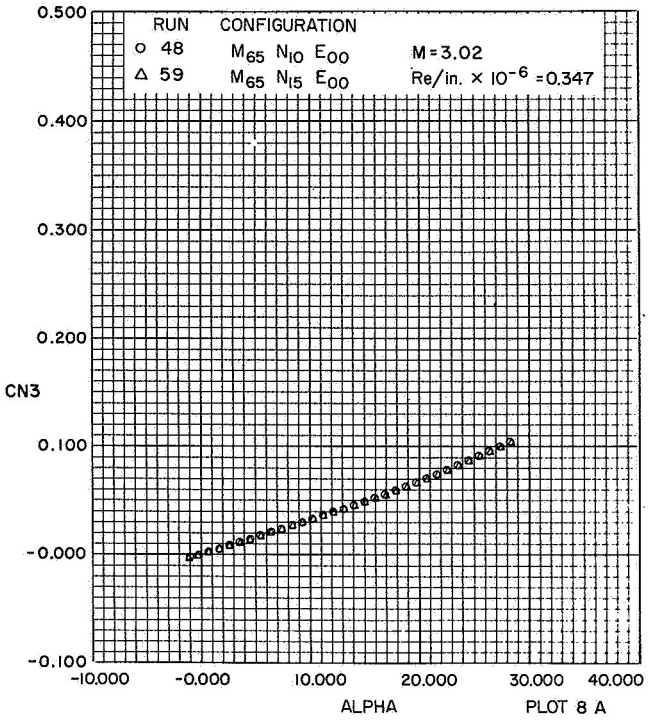
PLOT 7C

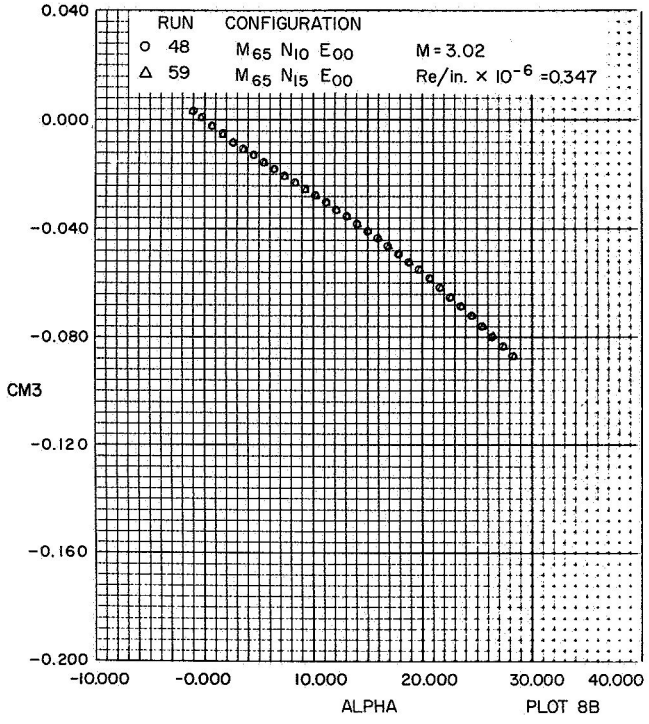


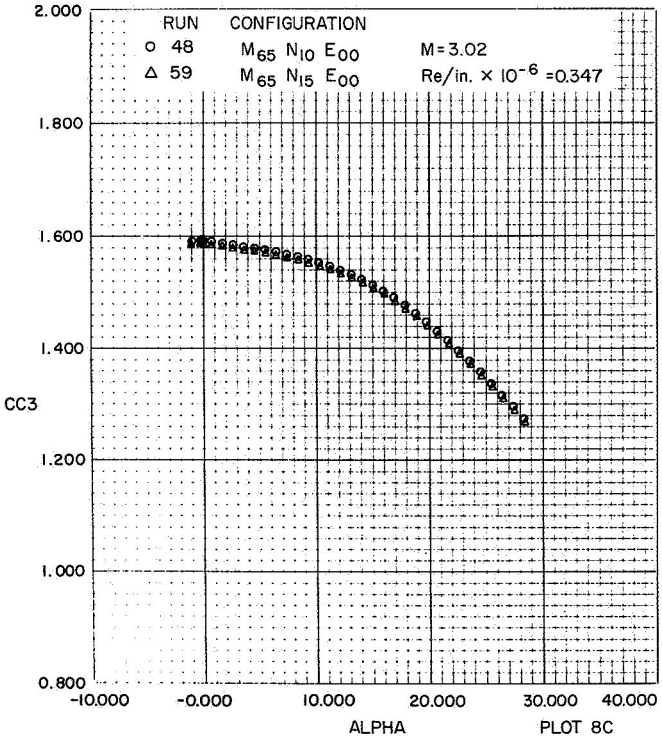
PLOT 7E

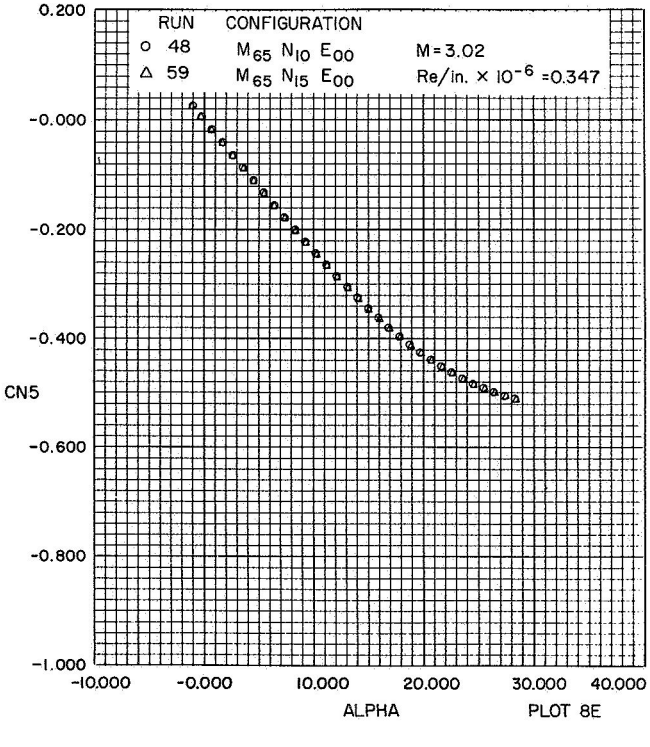

RUN CONFIGURATION
○ 42 M60 N15 E00
△ 44 M60 N15 E05
□ 46 M60 N15 E10
M=3.01
Re/in. × 10⁻⁶ =0.102
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 7F

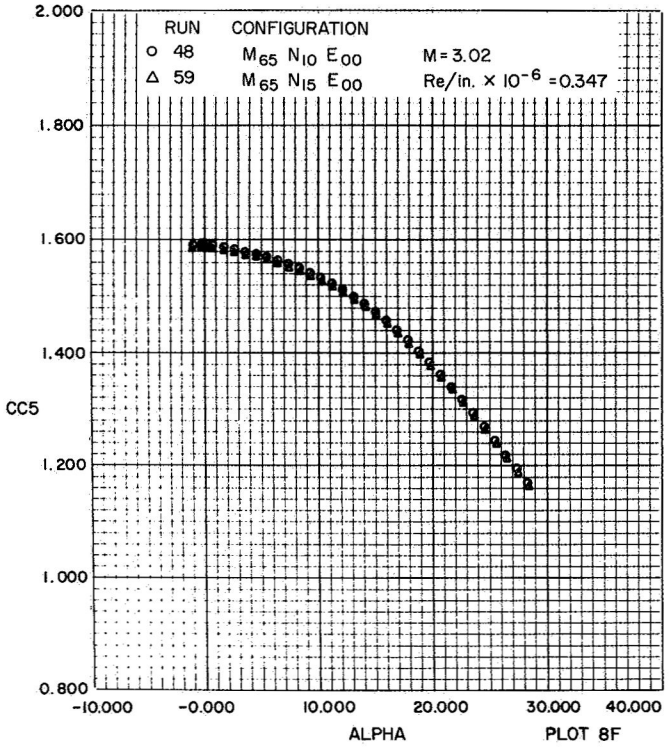

RUN CONFIGURATION
○ 42 M60 N15 E00
△ 44 M60 N15 E05
□ 46 M60 N15 E10
M=3.01
Re/in. × 10⁻⁶ =0.102
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT 7H

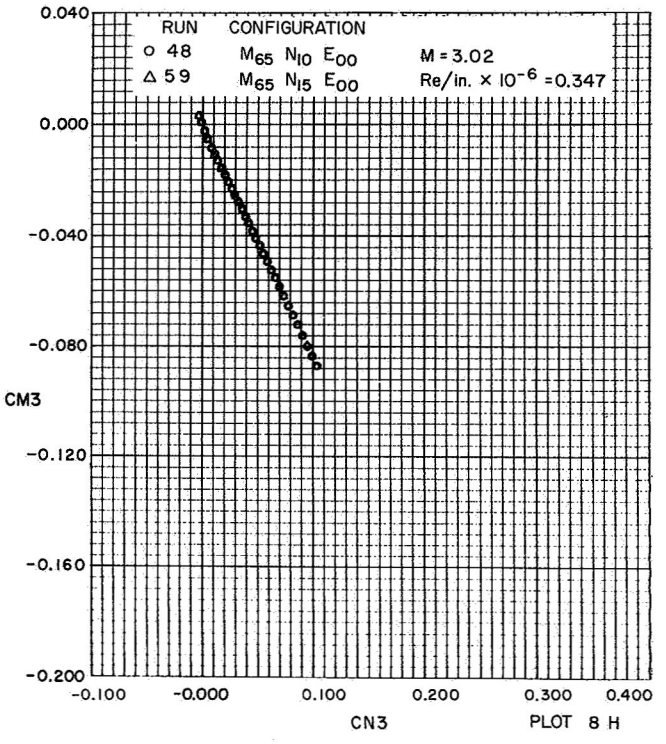

RUN CONFIGURATION
o 48 M65 N10 E00 M=3.02
Δ 59 M65 N15 E00 Re/in. × 10-6 =0.347
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
CN3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 8 A

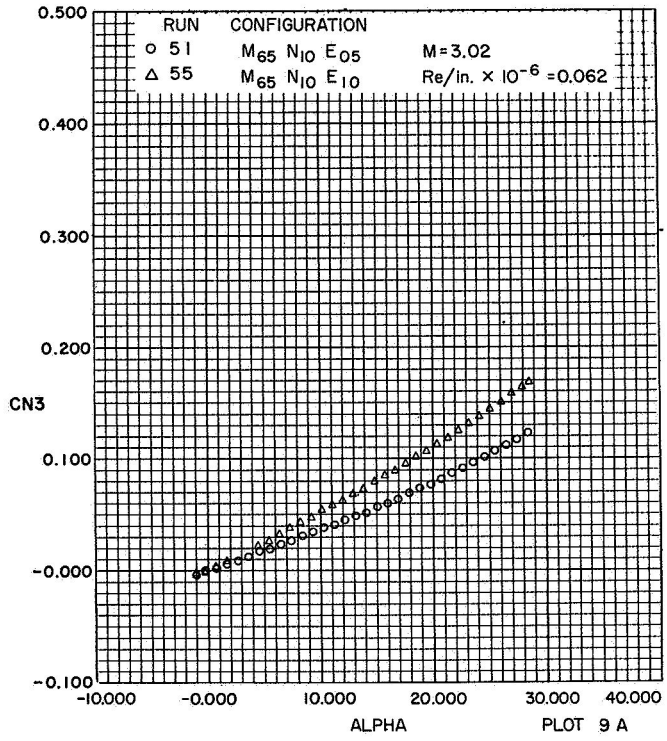

RUN CONFIGURATION
o 48 M65 N10 E00 M=3.02
Δ 59 M65 N15 E00 Re/in. × 10-6 =0.347
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 8B


RUN CONFIGURATION
o 48 M65 N10 E00 M=3.02
Δ 59 M65 N15 E00 Re/in. × 10-6 =0.347
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 8C

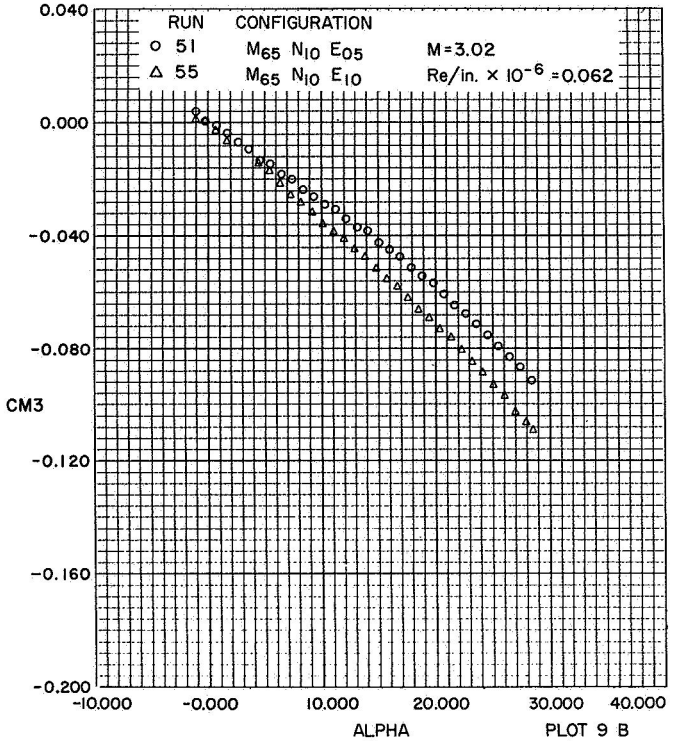

RUN CONFIGURATION
o 48 M65 N10 E00 M=3.02
Δ 59 M65 N15 E00 Re/in. × 10-6 =0.347
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
CN5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 8E


RUN CONFIGURATION
o 48 M65 N10 E00 M=3.02
Δ 59 M65 N15 E00 Re/in. x 10^-6 =0.347
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 8F

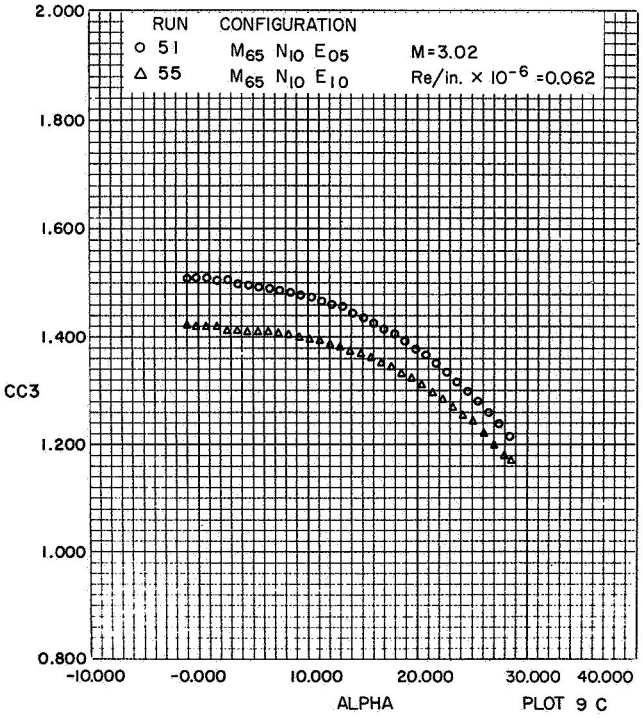

RUN CONFIGURATION
o 48 M65 N10 E00 M=3.02
Δ 59 M65 N15 E00 Re/in. x 10^-6 =0.347
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 8 H



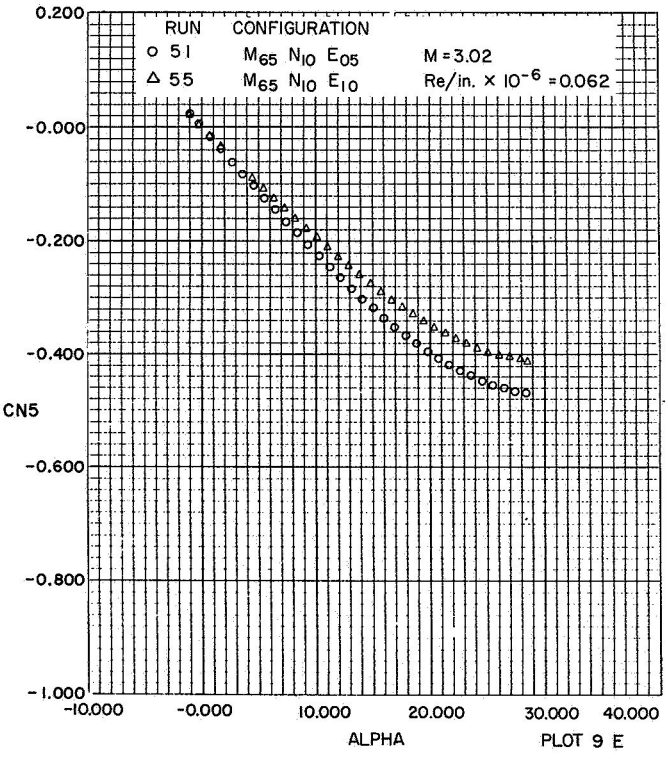
PLOT 9 A



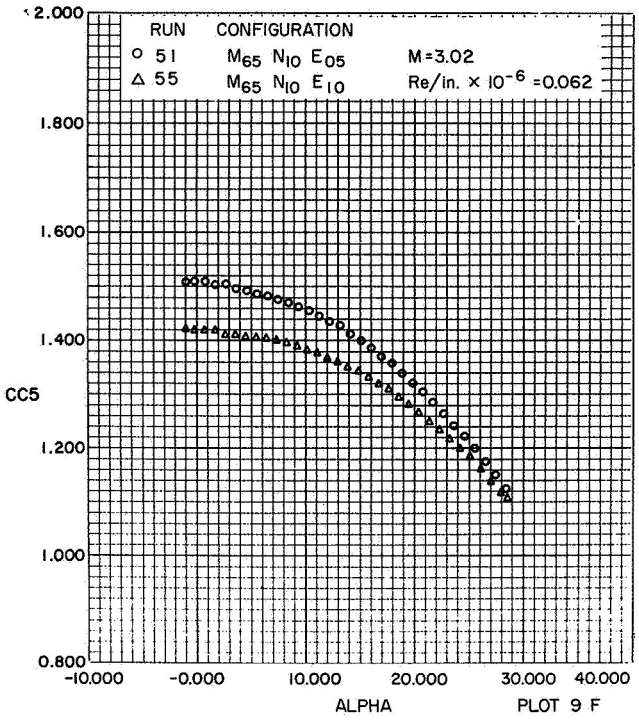
PLOT 9 B

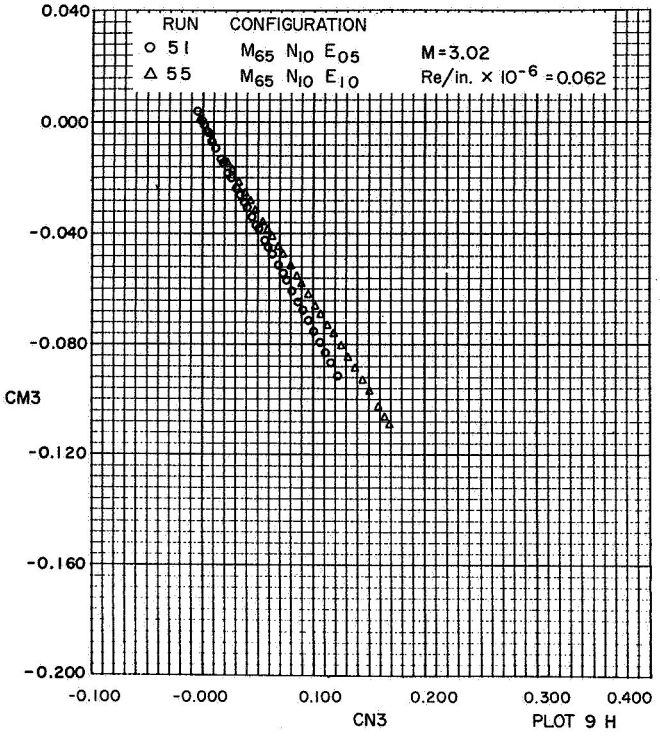


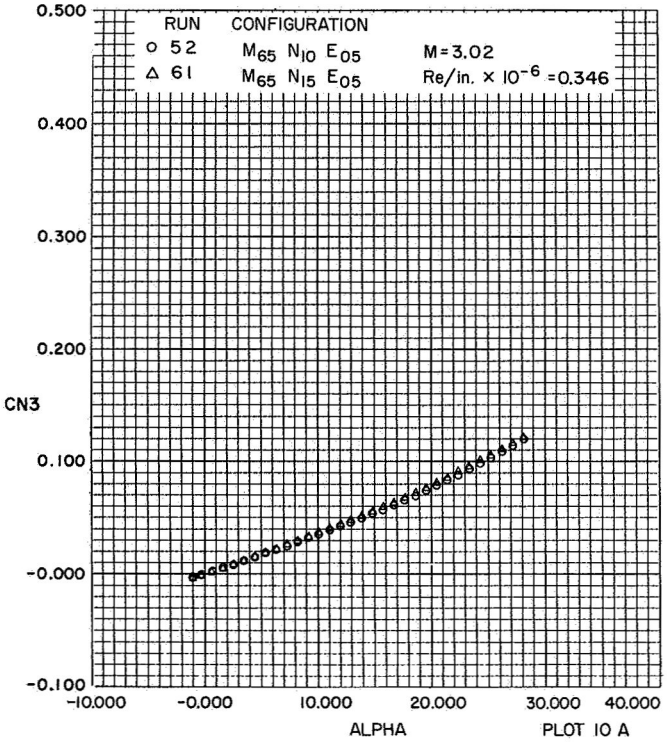
PLOT 9 C



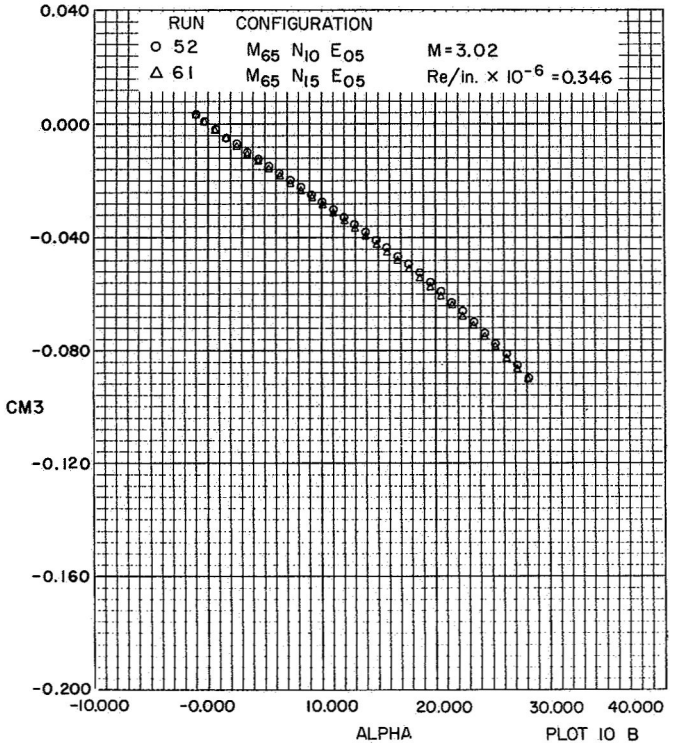
PLOT 9 E


RUN CONFIGURATION
○ 51 M65 N10 E05 M=3.02
△ 55 M65 N10 E10 Re/in. × 10⁻⁶ =0.062
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 9 F

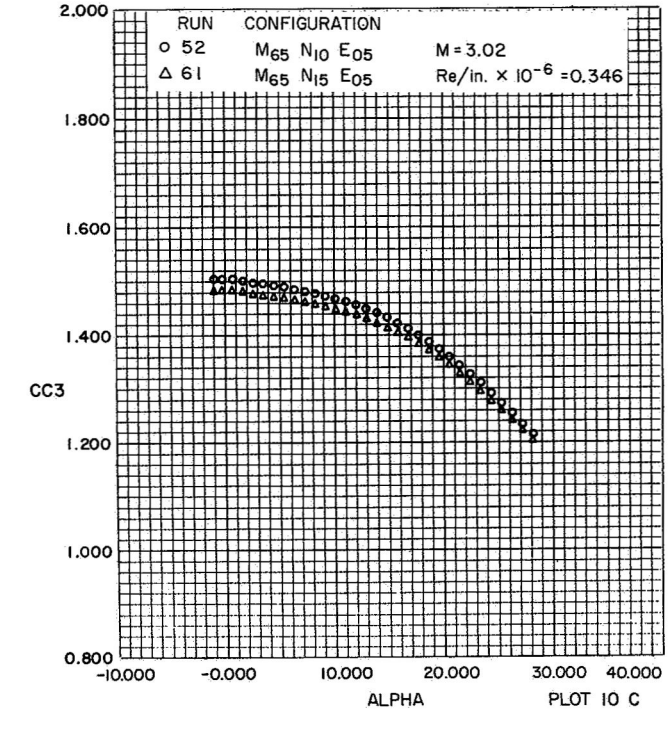

RUN CONFIGURATION
○ 51 M65 N10 E05 M=3.02
△ 55 M65 N10 E10 Re/in. × 10⁻⁶ =0.062
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 9 H



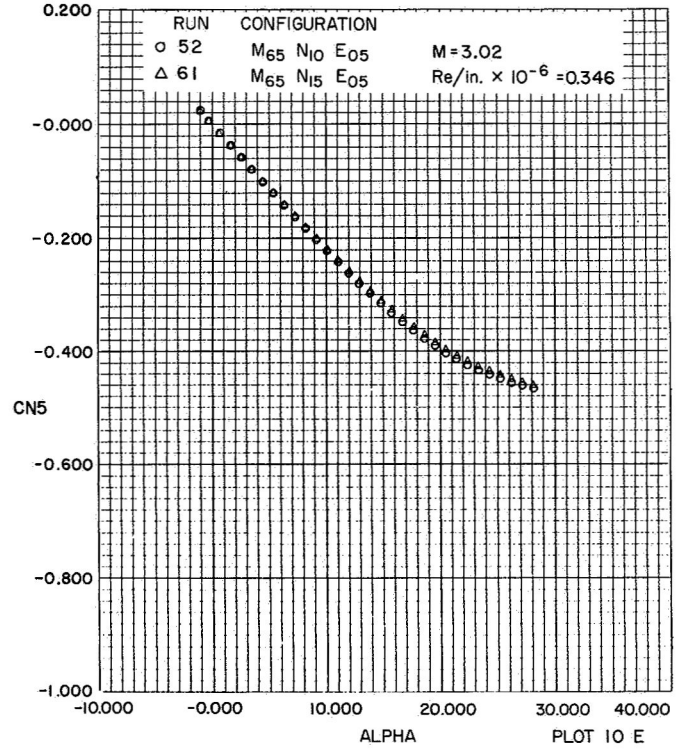
PLOT 10 A



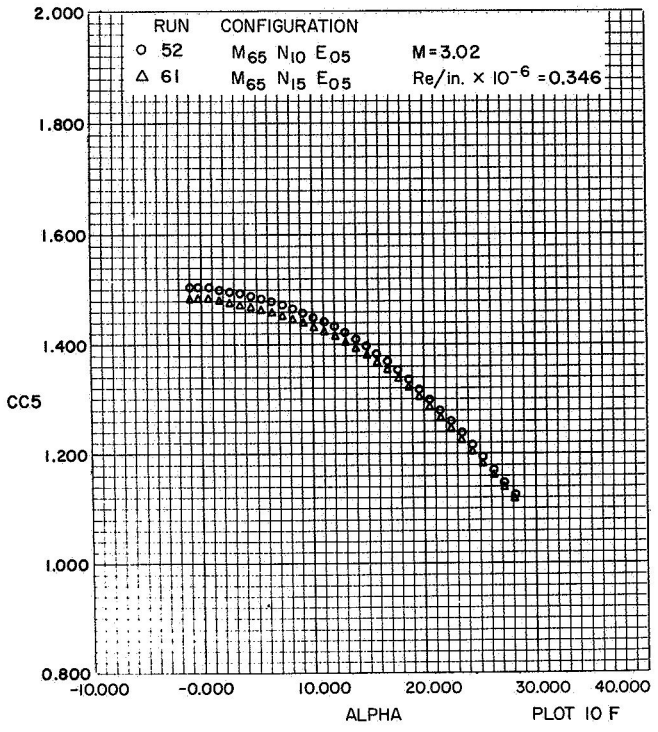
PLOT 10 B

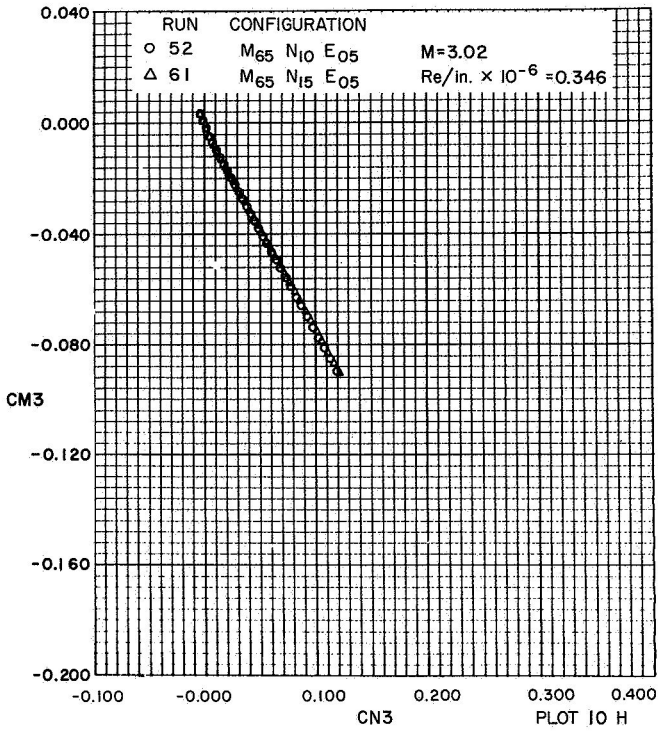


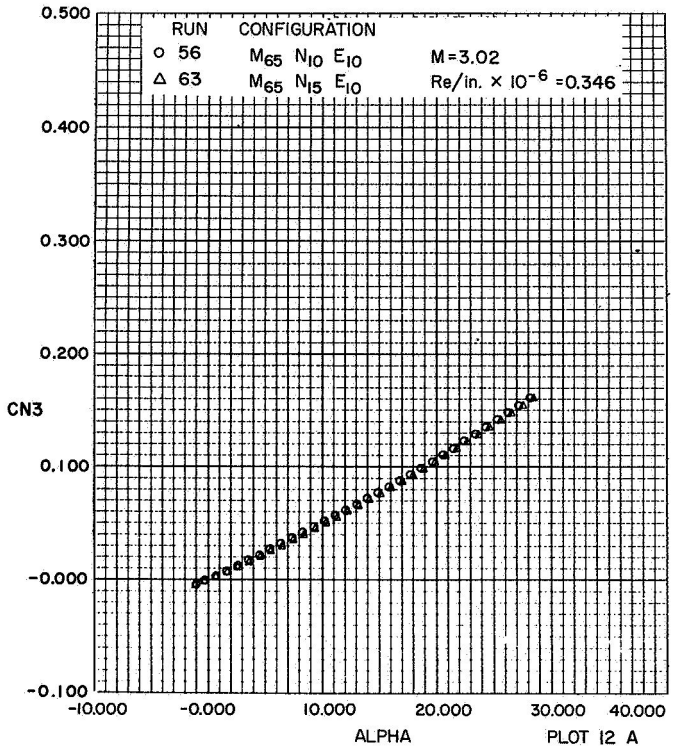
PLOT 10 C

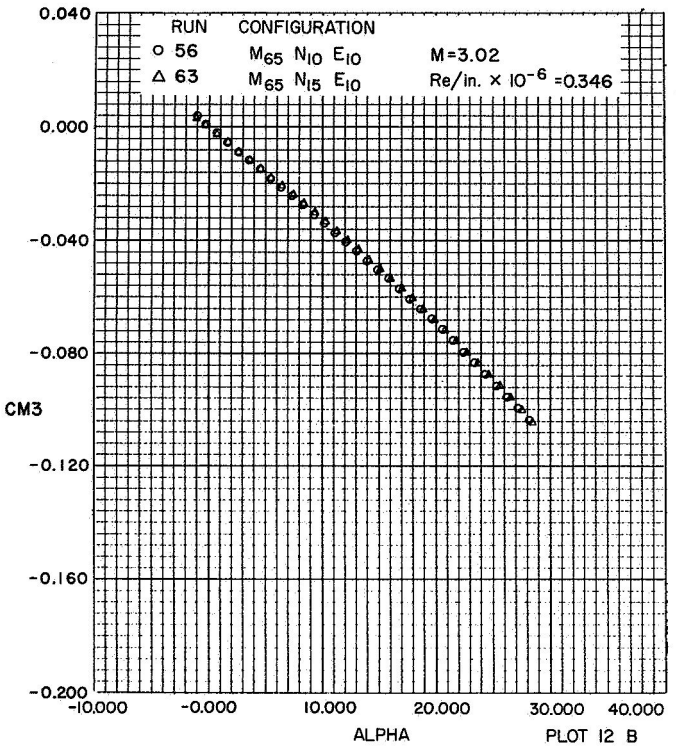


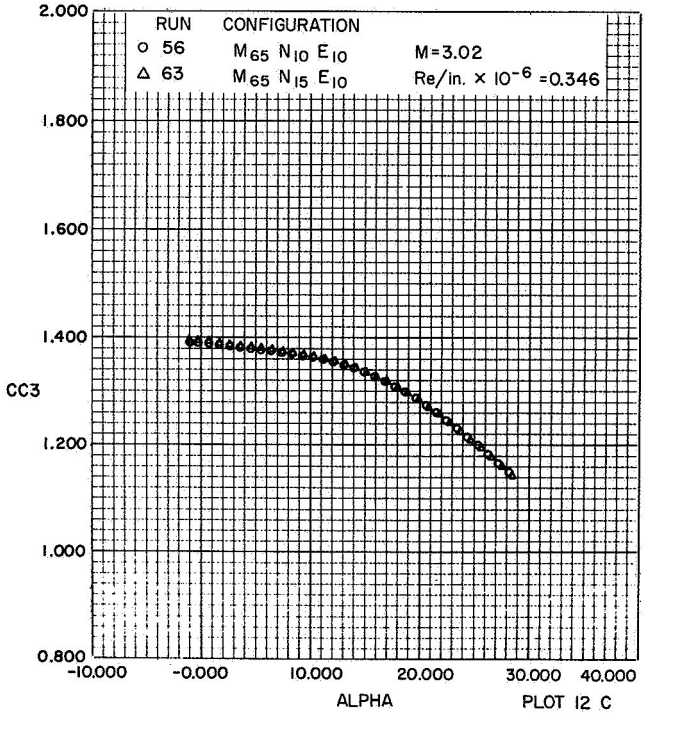
PLOT 10 E

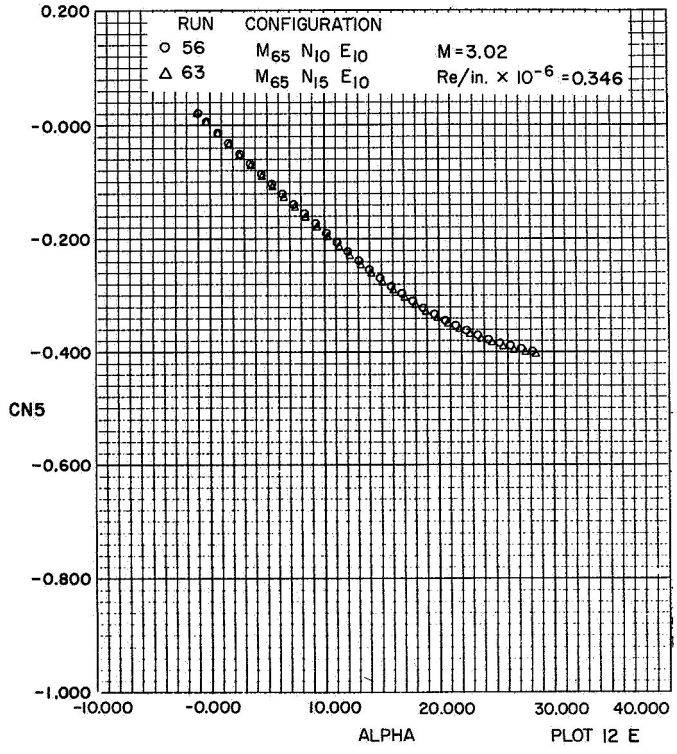

RUN CONFIGURATION
o 52 M65 N10 E05 M=3.02
Δ 61 M65 N15 E05 Re/in. × 10⁻⁶ =0.346
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 10 F

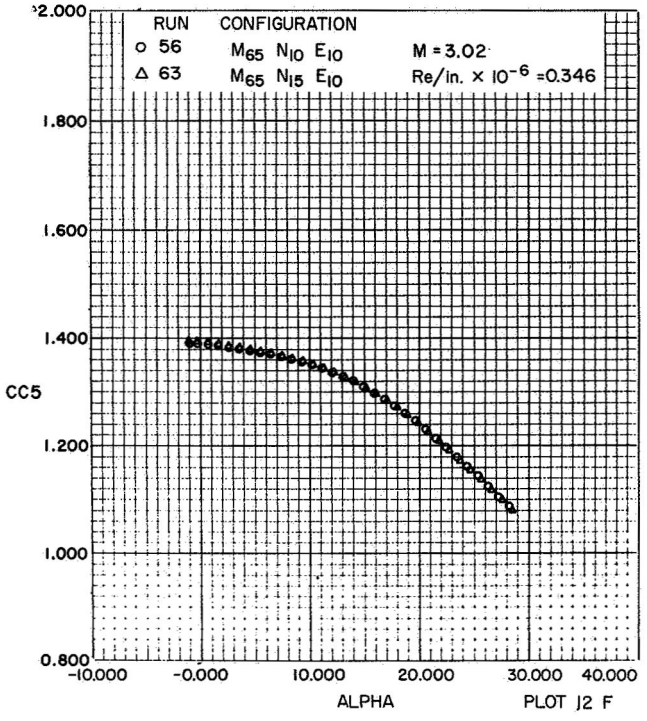

RUN CONFIGURATION
o 52 M65 N10 E05 M=3.02
Δ 61 M65 N15 E05 Re/in. × 10⁻⁶ =0.346
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 10 H

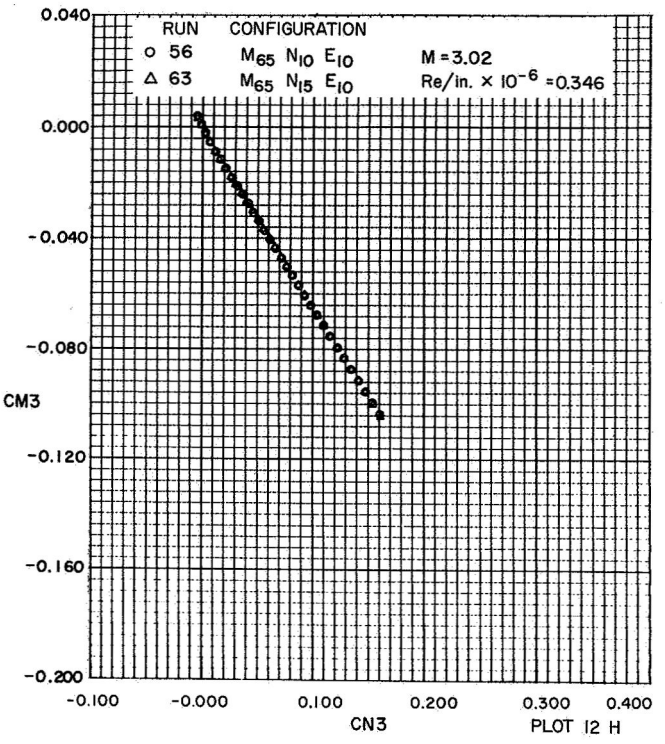

RUN CONFIGURATION
o 56 M65 N10 E10 M=3.02
Δ 63 M65 N15 E10 Re/in. × 10-6 =0.346
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
CN3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 12 A

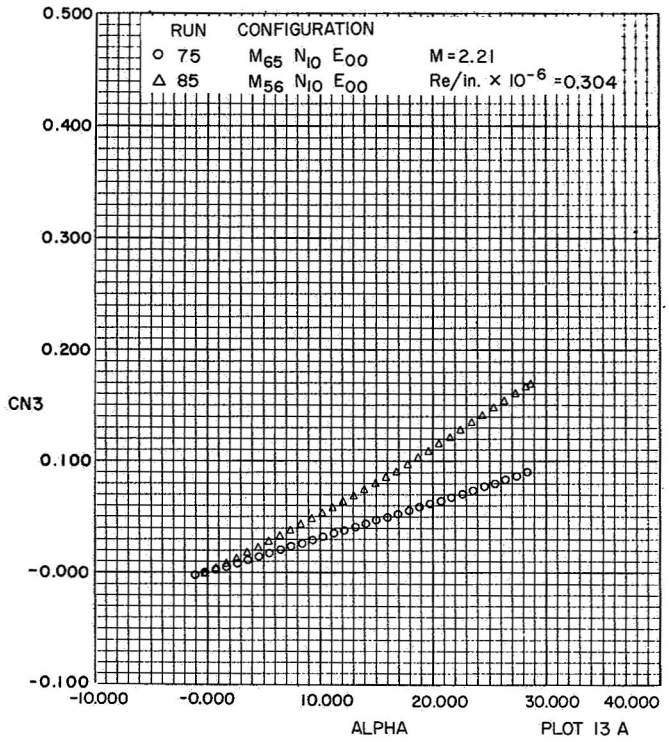

RUN CONFIGURATION
o 56 M65 N10 E10 M=3.02
Δ 63 M65 N15 E10 Re/in. × 10-6 =0.346
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 12 B

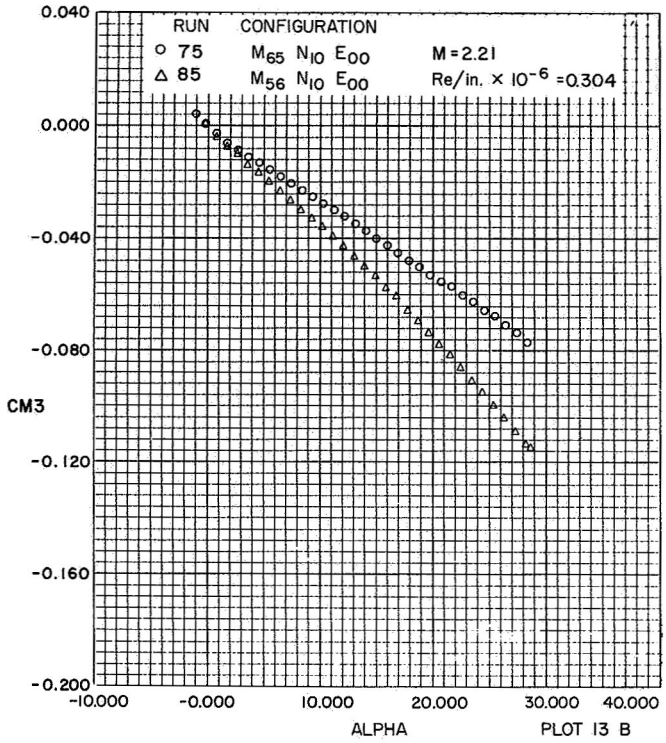

RUN CONFIGURATION
o 56 M65 N10 E10 M=3.02
Δ 63 M65 N15 E10 Re/in. × 10-6 =0.346
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 12 C

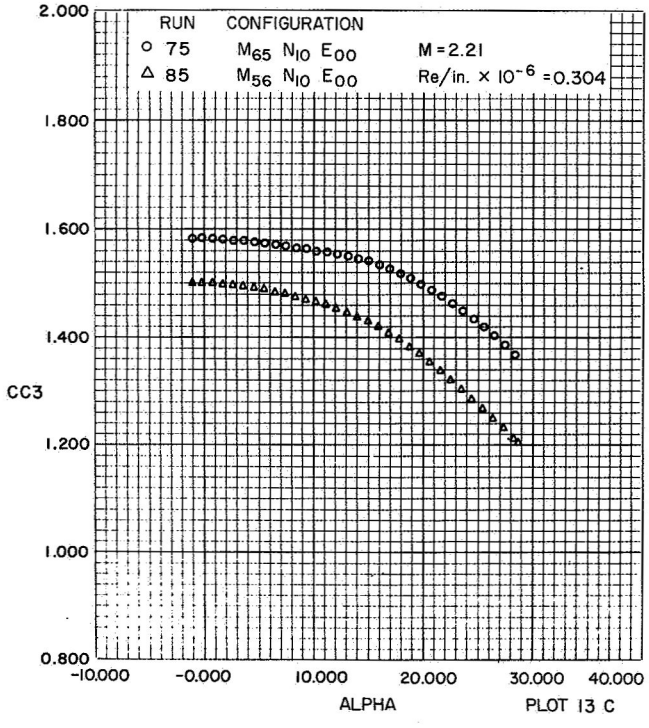

RUN CONFIGURATION
o 56 M65 N10 E10 M=3.02
Δ 63 M65 N15 E10 Re/in. × 10-6 =0.346
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
CN5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 12 E

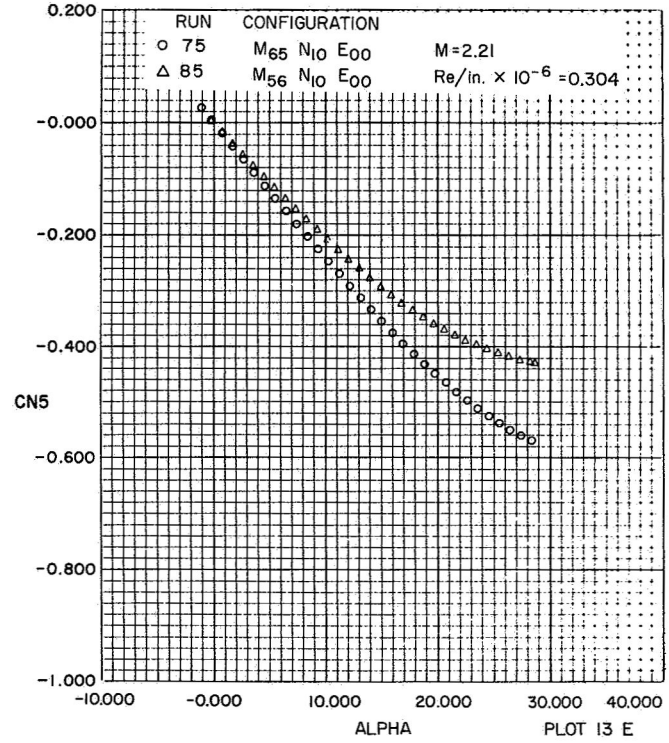

RUN CONFIGURATION
o 56 M65 N10 E10 M = 3.02
Δ 63 M65 N15 E10 Re/in. × 10⁻⁶ =0.346
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 12 F

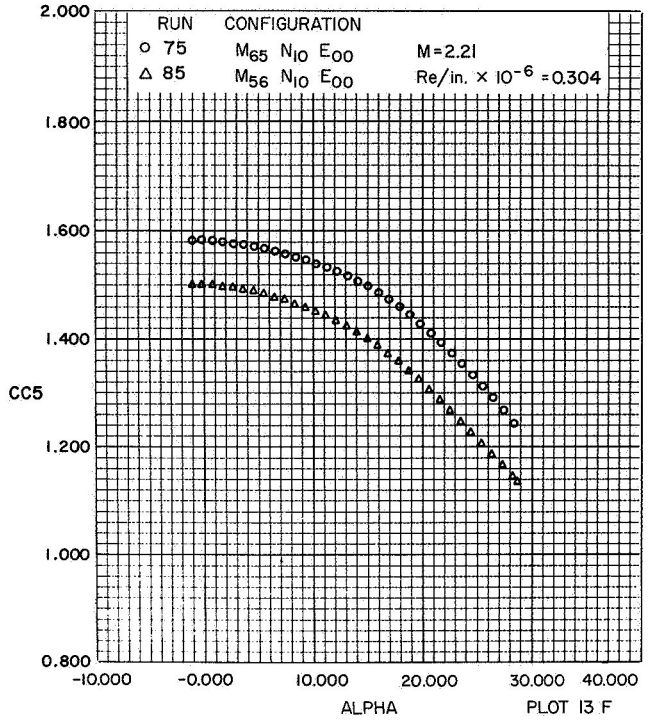

RUN CONFIGURATION
o 56 M65 N10 E10 M = 3.02
Δ 63 M65 N15 E10 Re/in. × 10⁻⁶ =0.346
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 12 H

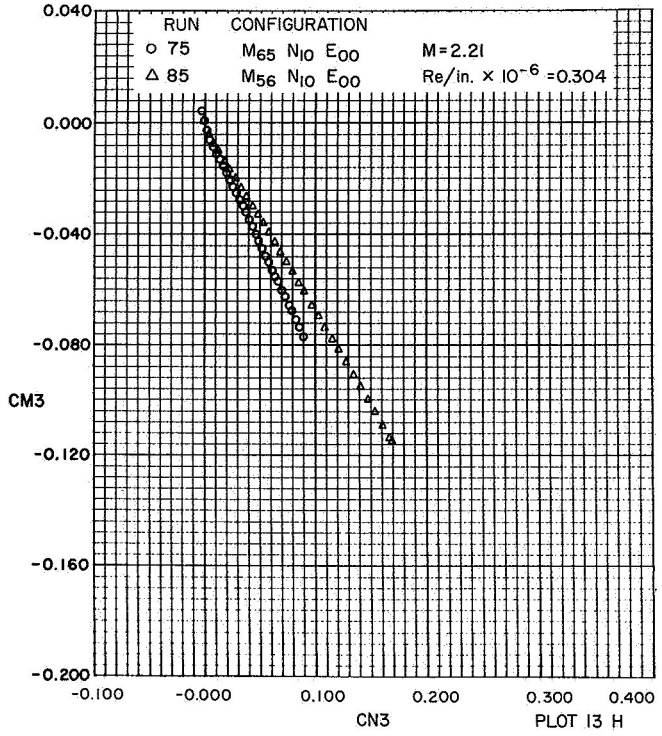

RUN CONFIGURATION
○ 75 M65 N10 E00 M=2.21
△ 85 M56 N10 E00 Re/in. × 10⁻⁶ =0.304
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
CN3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 A

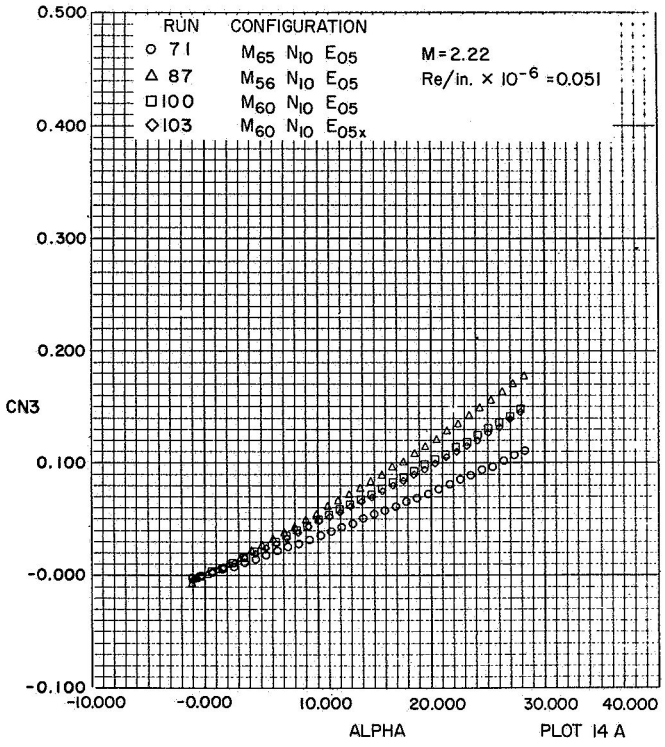

RUN CONFIGURATION
○ 75 M65 N10 E00 M=2.21
△ 85 M56 N10 E00 Re/in. × 10⁻⁶ =0.304
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 B

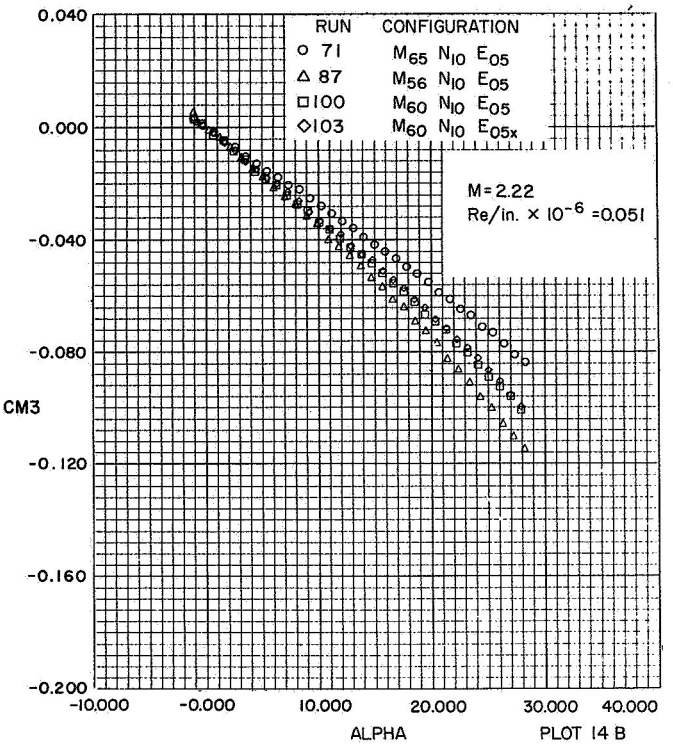

RUN CONFIGURATION
○ 75 M65 N10 E00 M=2.21
△ 85 M56 N10 E00 Re/in. × 10⁻⁶ =0.304
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 C

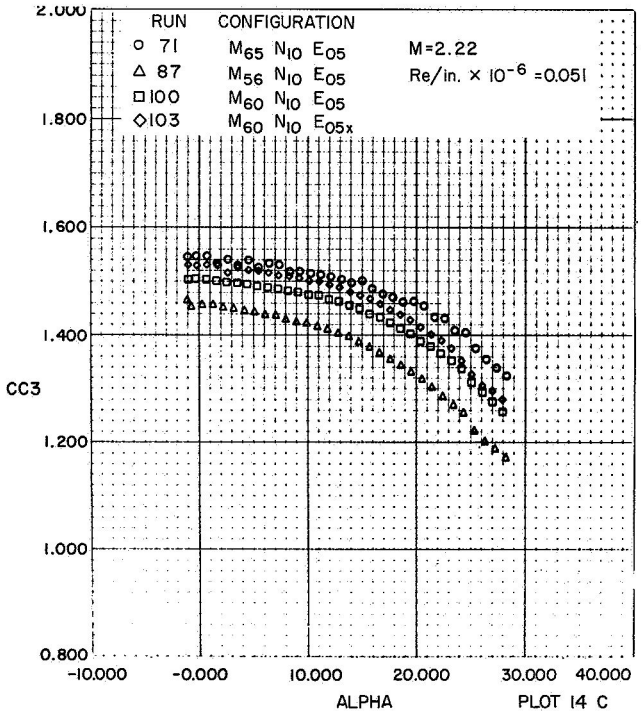

RUN CONFIGURATION
○ 75 M65 N10 E00 M=2.21
△ 85 M56 N10 E00 Re/in. × 10⁻⁶ =0.304
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
CN5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 E

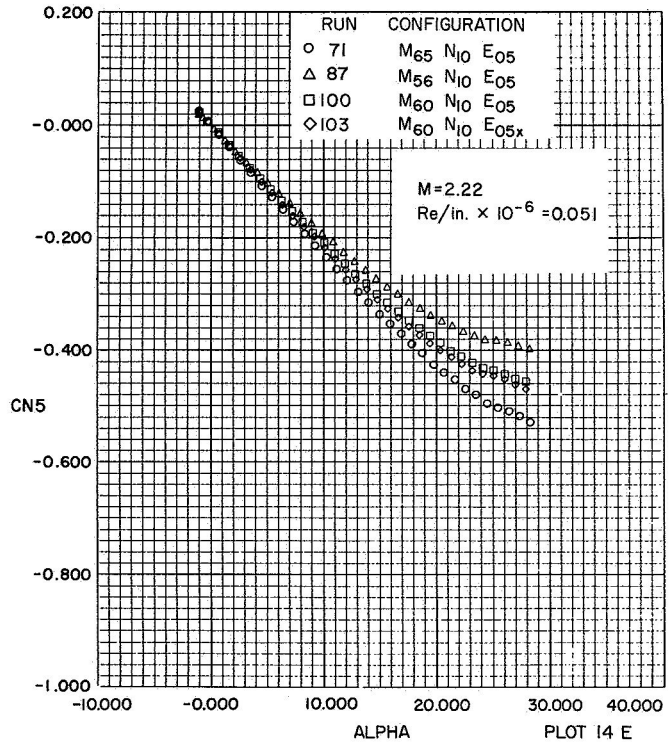

RUN CONFIGURATION
o 75 M65 N10 E00 M=2.21
Δ 85 M56 N10 E00 Re/in. × 10⁻⁶ =0.304
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 F

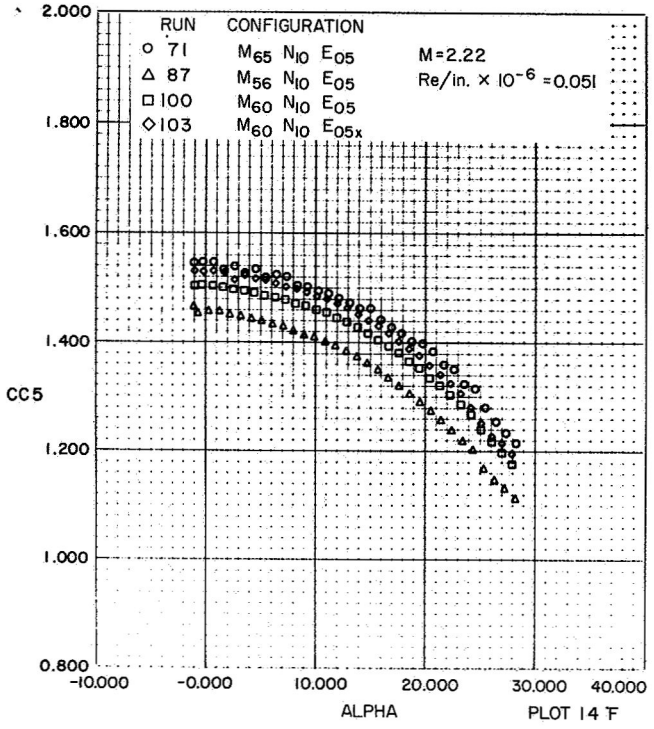

RUN CONFIGURATION
o 75 M65 N10 E00 M=2.21
Δ 85 M56 N10 E00 Re/in. × 10⁻⁶ =0.304
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 13 H

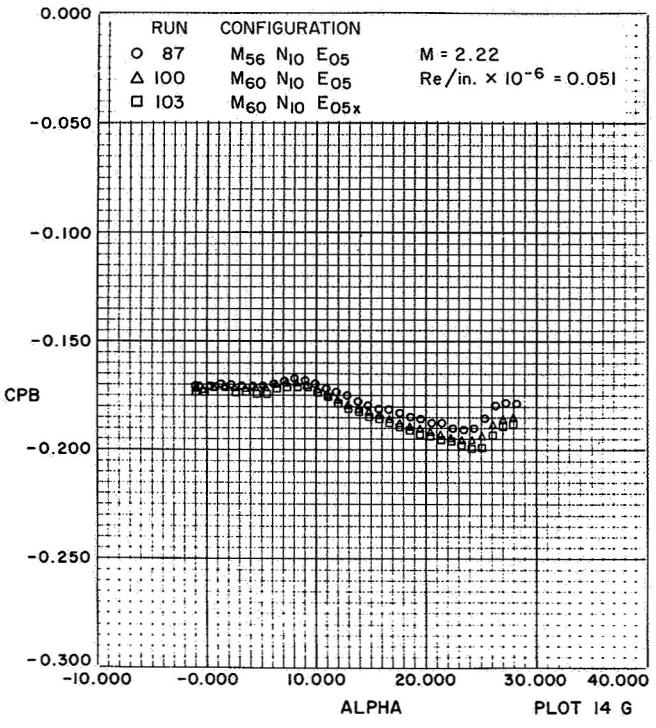

RUN CONFIGURATION
o 71 M65 N10 E05
Δ 87 M56 N10 E05
□100 M60 N10 E05
◇103 M60 N10 E05x
M=2.22
Re/in. × 10-6 =0.051
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 A

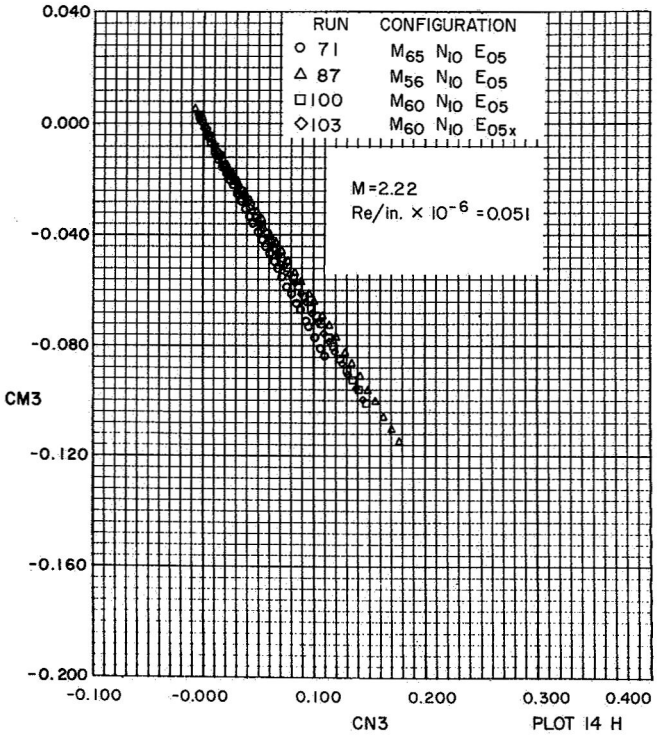

RUN CONFIGURATION
o 71 M65 N10 E05
Δ 87 M56 N10 E05
□100 M60 N10 E05
◇103 M60 N10 E05x
M=2.22
Re/in. × 10-6 =0.051
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 B

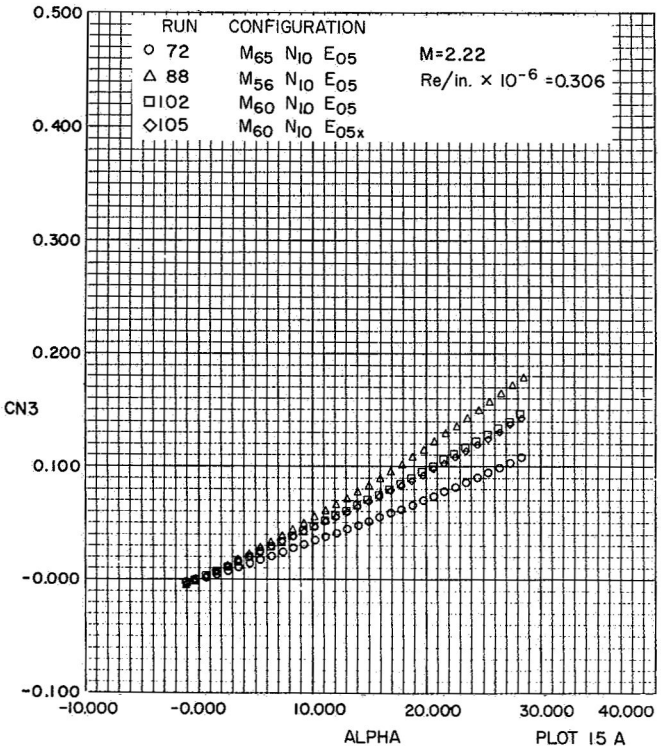

RUN CONFIGURATION
o 71 M65 N10 E05
Δ 87 M56 N10 E05
□100 M60 N10 E05
◇103 M60 N10 E05x
M=2.22
Re/in. × 10-6 =0.051
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 C

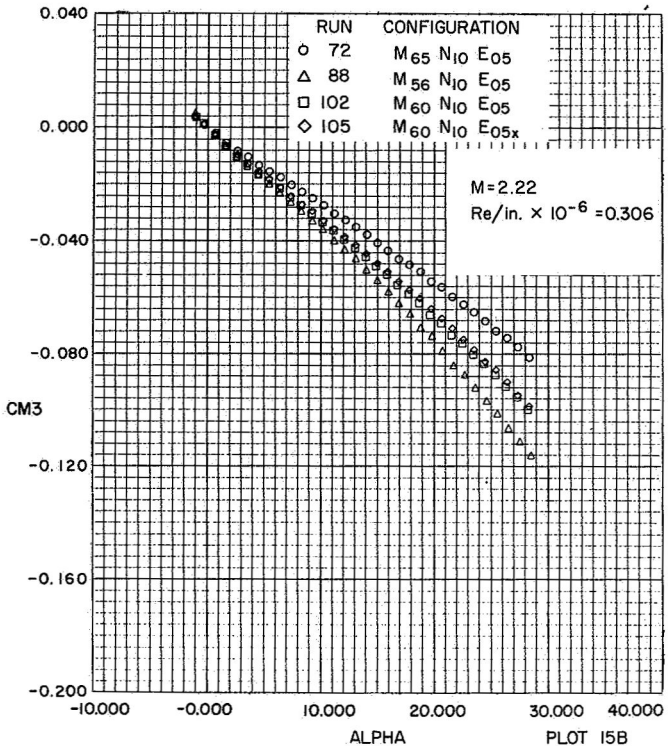

RUN CONFIGURATION
o 71 M65 N10 E05
Δ 87 M56 N10 E05
□100 M60 N10 E05
◇103 M60 N10 E05x
M=2.22
Re/in. × 10-6 =0.051
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 E

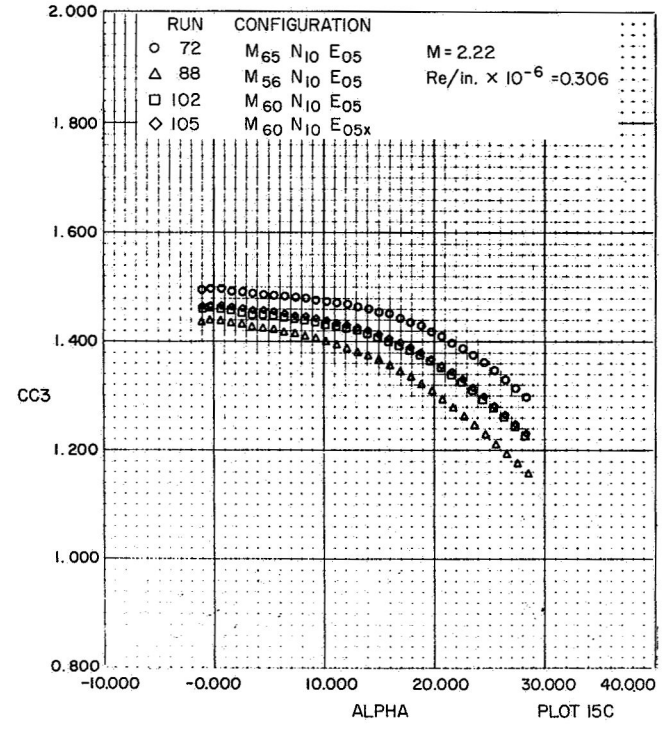

RUN CONFIGURATION
○ 71 M65 N10 E05
△ 87 M56 N10 E05
□ 100 M60 N10 E05
◇ 103 M60 N10 E05x
M=2.22
Re/in. × 10⁻⁶ =0.051
CC5
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 F

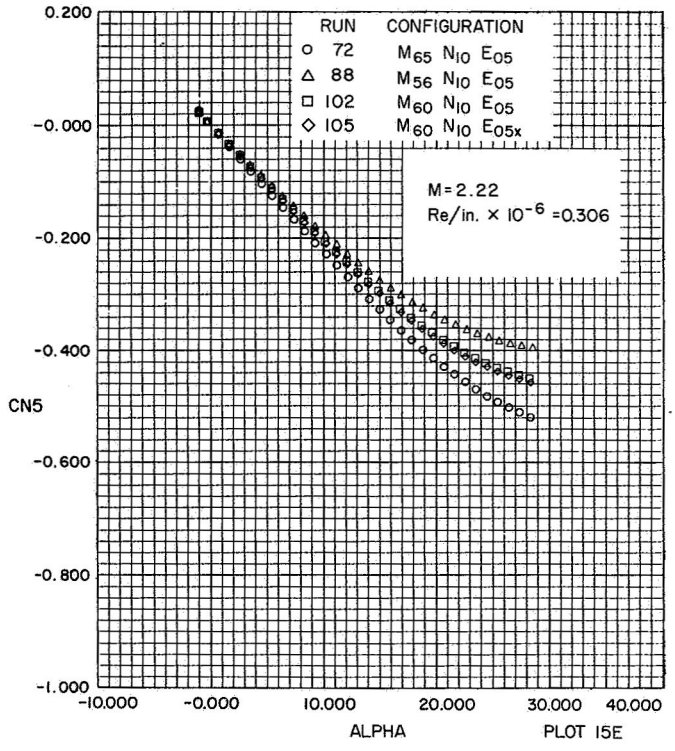

RUN CONFIGURATION
○ 87 M56 N10 E05
△ 100 M60 N10 E05
□ 103 M60 N10 E05x
M = 2.22
Re/in. × 10⁻⁶ = 0.051
CPB
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 G

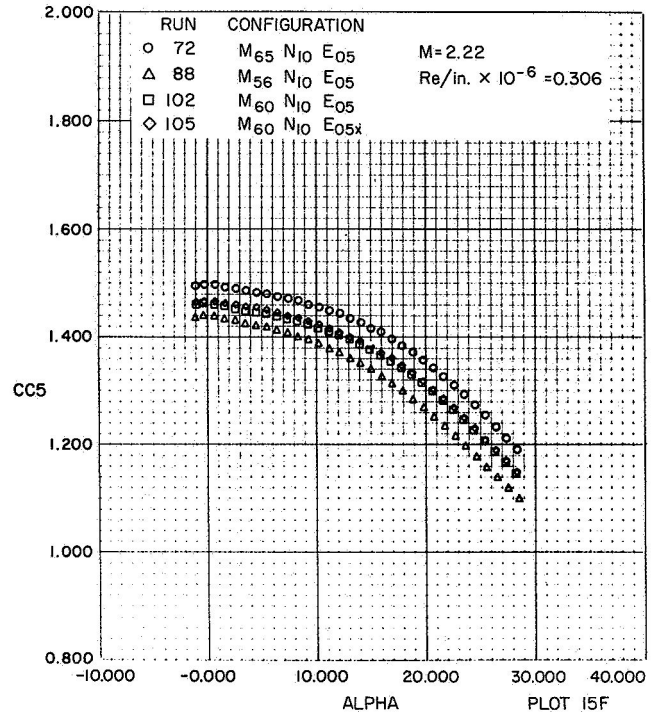

RUN CONFIGURATION
○ 71 M65 N10 E05
△ 87 M56 N10 E05
□ 100 M60 N10 E05
◇ 103 M60 N10 E05x
M=2.22
Re/in. × 10⁻⁶ =0.051
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 14 H

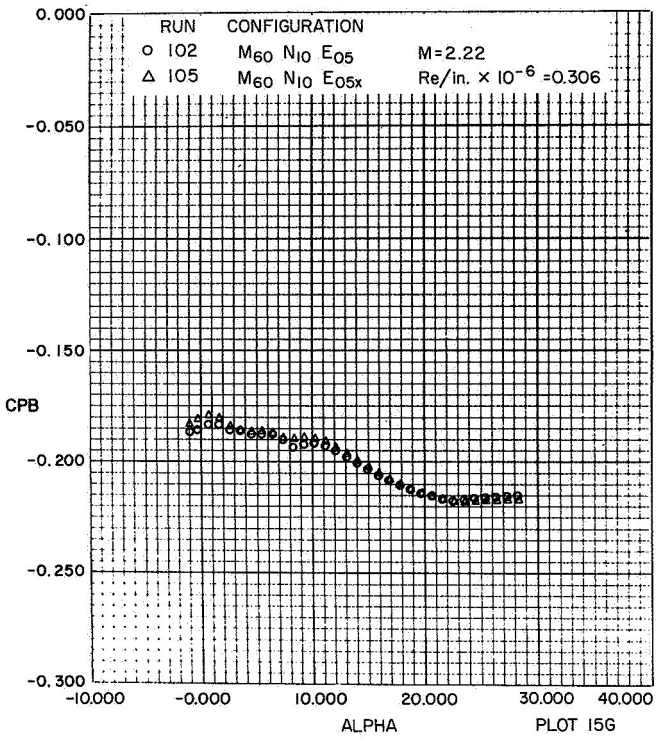

RUN CONFIGURATION
o 72 M65 N10 E05
Δ 88 M56 N10 E05
□ 102 M60 N10 E05
◇ 105 M60 N10 E05x
M=2.22
Re/in. × 10⁻⁶ =0.306
CN3
ALPHA
PLOT 15 A

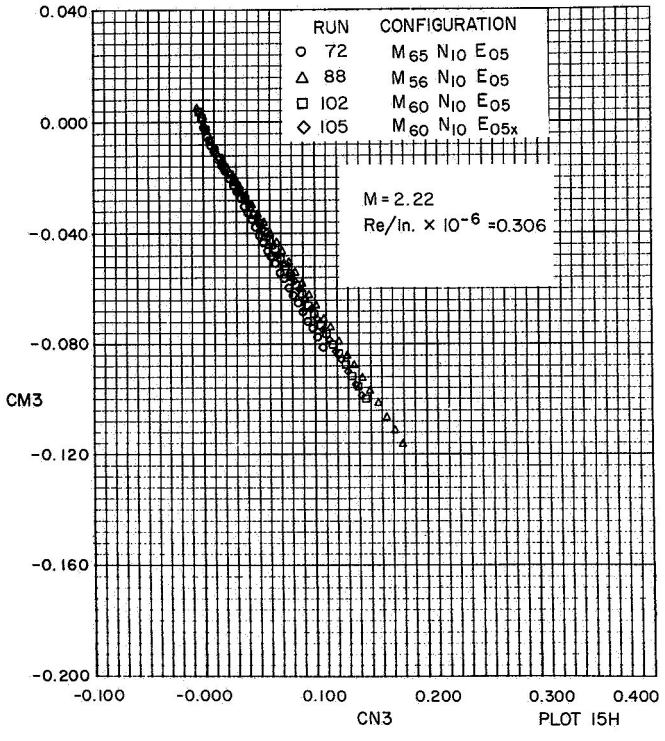

RUN CONFIGURATION
o 72 M65 N10 E05
Δ 88 M56 N10 E05
□ 102 M60 N10 E05
◇ 105 M60 N10 E05x
M=2.22
Re/in. × 10⁻⁶ =0.306
CM3
ALPHA
PLOT 15B

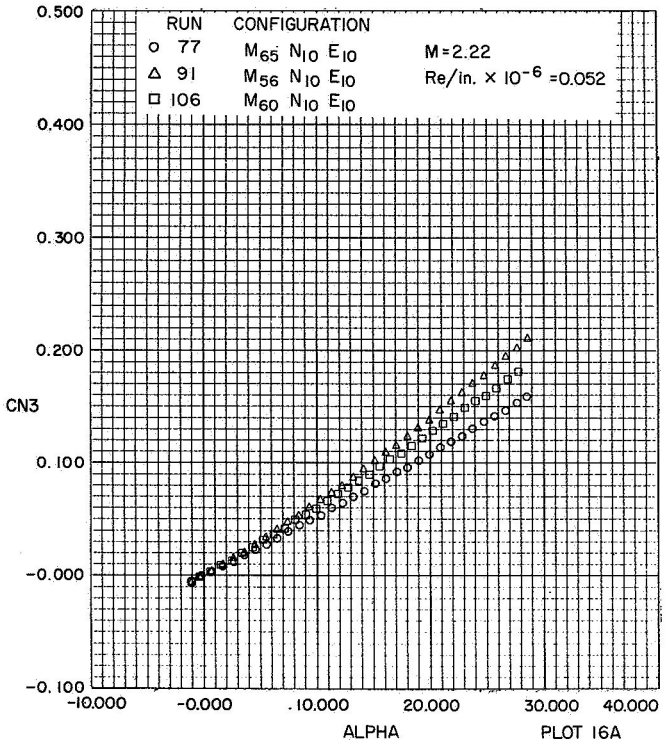

RUN CONFIGURATION
o 72 M65 N10 E05
Δ 88 M56 N10 E05
□ 102 M60 N10 E05
◇ 105 M60 N10 E05x
M=2.22
Re/in. × 10⁻⁶ =0.306
CC3
ALPHA
PLOT 15C

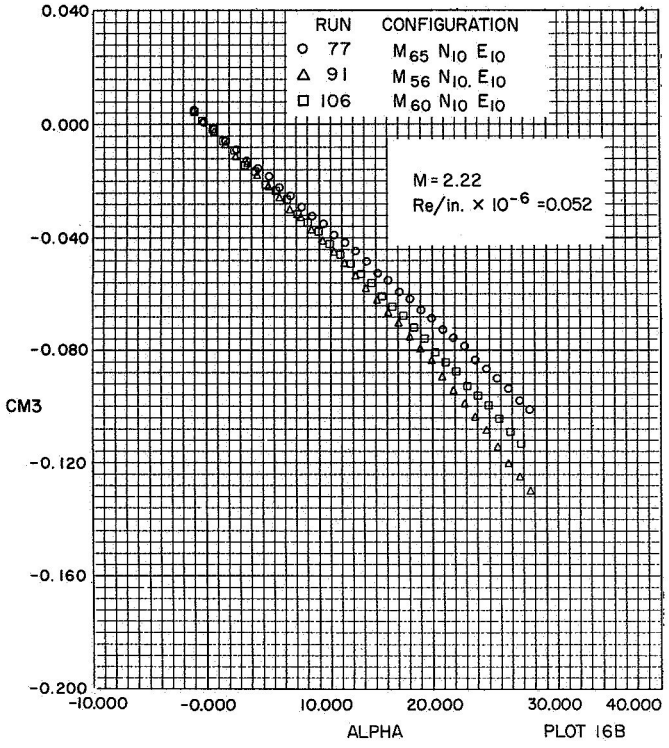

RUN CONFIGURATION
o 72 M65 N10 E05
Δ 88 M56 N10 E05
□ 102 M60 N10 E05
◇ 105 M60 N10 E05x
M=2.22
Re/in. × 10⁻⁶ =0.306
CN5
ALPHA
PLOT 15E

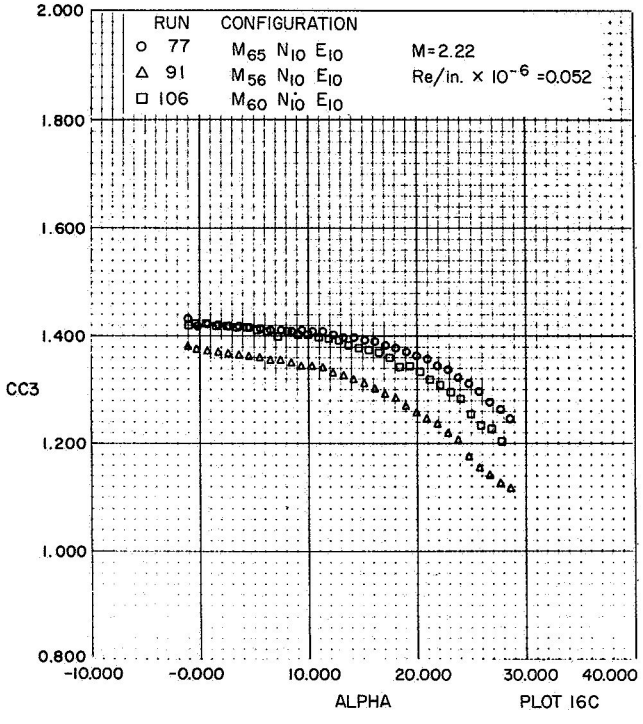

RUN CONFIGURATION
o 72 M65 N10 E05
Δ 88 M56 N10 E05
□ 102 M60 N10 E05
◇ 105 M60 N10 E05x
M=2.22
Re/in. × 10-6 =0.306
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15F

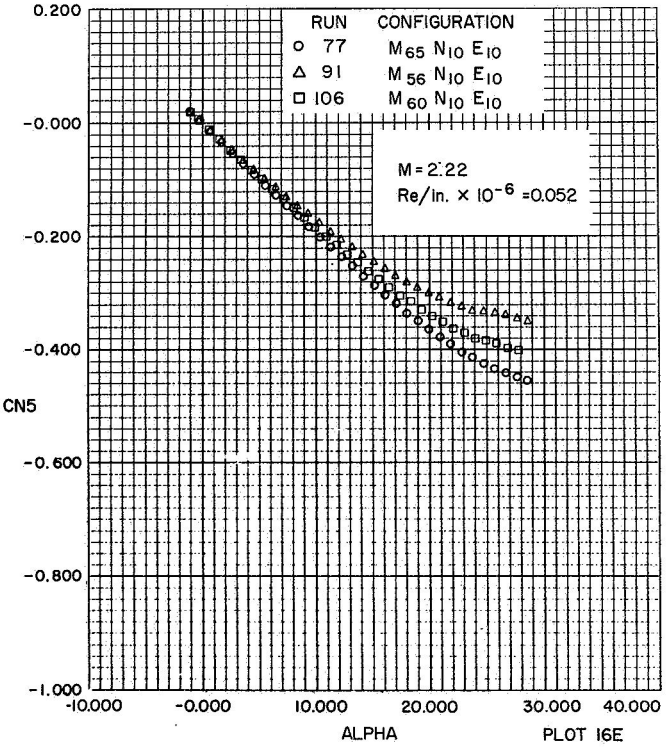

RUN CONFIGURATION
o 102 M60 N10 E05
Δ 105 M60 N10 E05x
M=2.22
Re/in. × 10-6 =0.306
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15G

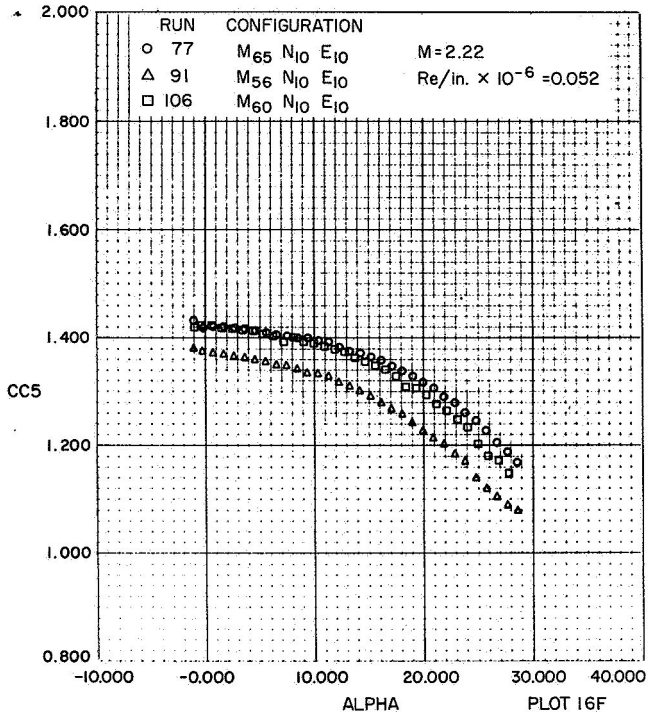

RUN CONFIGURATION
o 72 M65 N10 E05
Δ 88 M56 N10 E05
□ 102 M60 N10 E05
◇ 105 M60 N10 E05x
M=2.22
Re/in. × 10-6 =0.306
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 15H

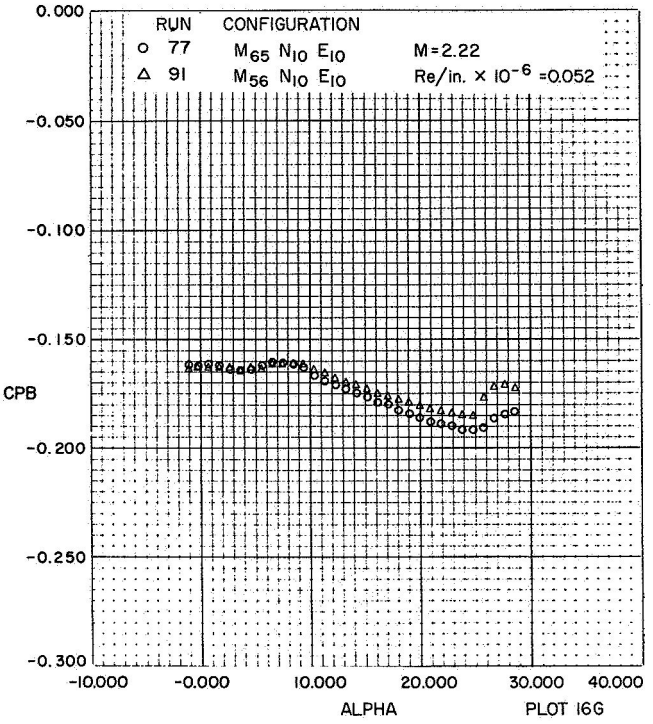

RUN CONFIGURATION
o 77 M65 N10 E10
Δ 91 M56 N10 E10
□ 106 M60 N10 E10
M=2.22
Re/in. × 10⁻⁶ =0.052
CN3
ALPHA
PLOT 16A

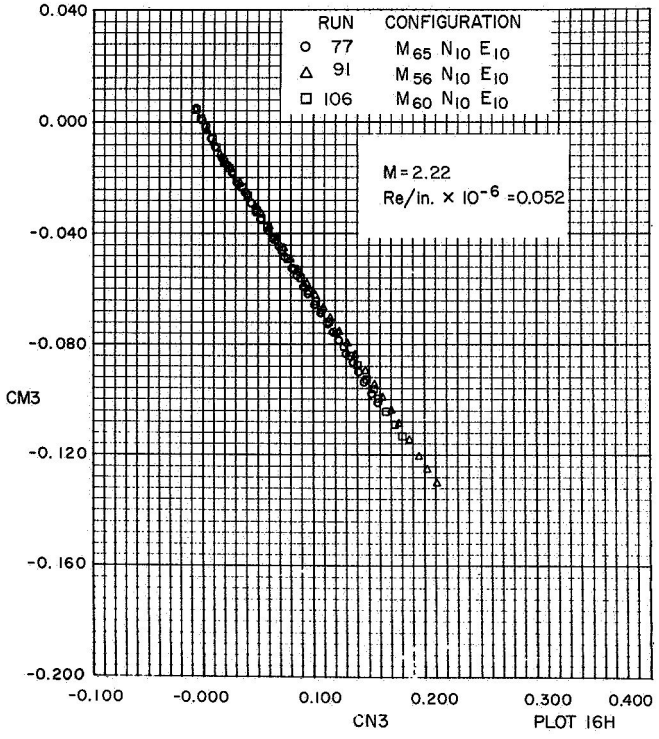

RUN CONFIGURATION
o 77 M65 N10 E10
Δ 91 M56 N10 E10
□ 106 M60 N10 E10
M=2.22
Re/in. × 10⁻⁶ =0.052
CM3
ALPHA
PLOT 16B

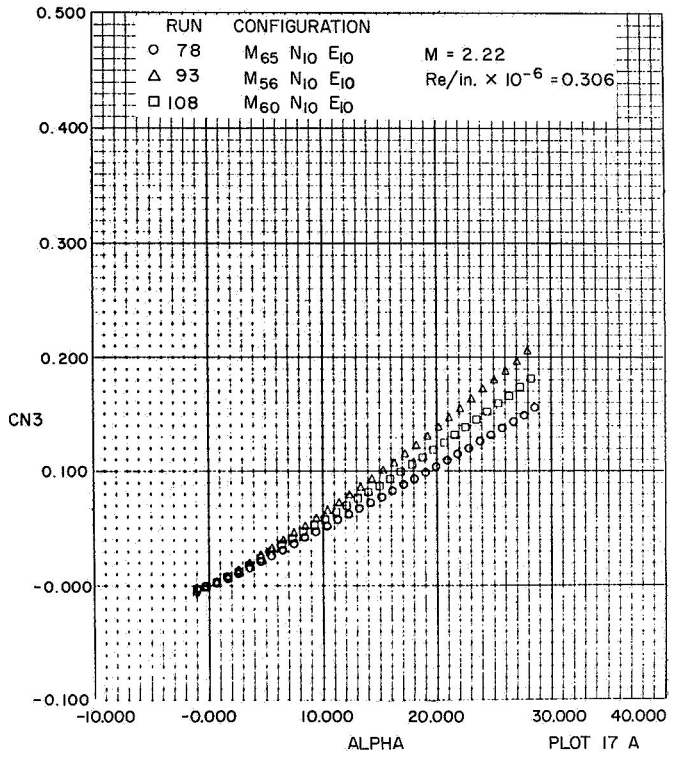

RUN CONFIGURATION
o 77 M65 N10 E10
Δ 91 M56 N10 E10
□ 106 M60 N10 E10
M=2.22
Re/in. × 10⁻⁶ =0.052
CC3
ALPHA
PLOT 16C

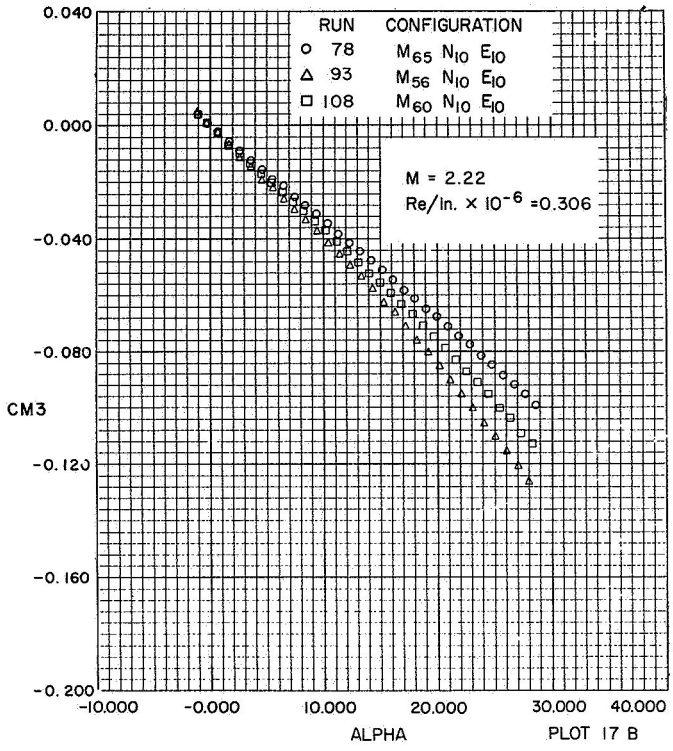

RUN CONFIGURATION
o 77 M65 N10 E10
Δ 91 M56 N10 E10
□ 106 M60 N10 E10
M=2.22
Re/in. × 10⁻⁶ =0.052
CN5
ALPHA
PLOT 16E

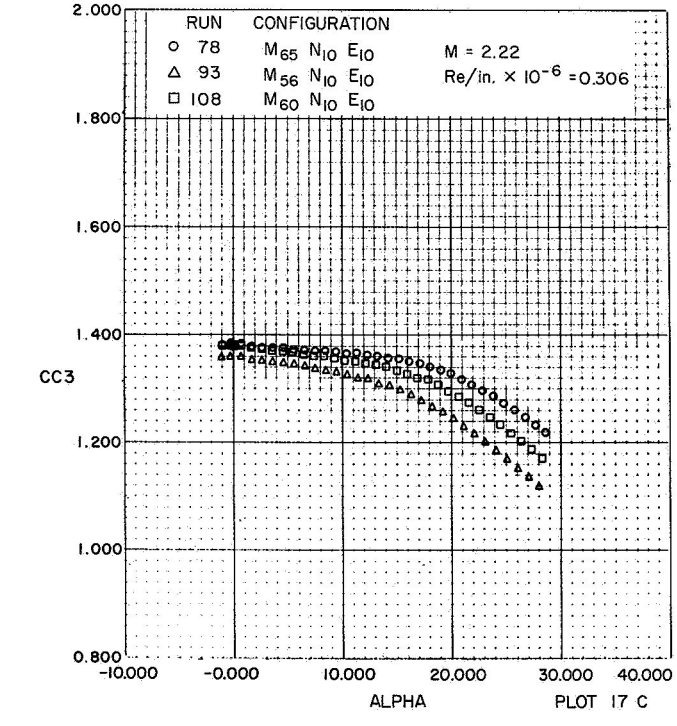

RUN CONFIGURATION
o 77 M65 N10 E10
Δ 91 M56 N10 E10
□ 106 M60 N10 E10
M=2.22
Re/in. × 10⁻⁶ =0.052
CC5
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 16F

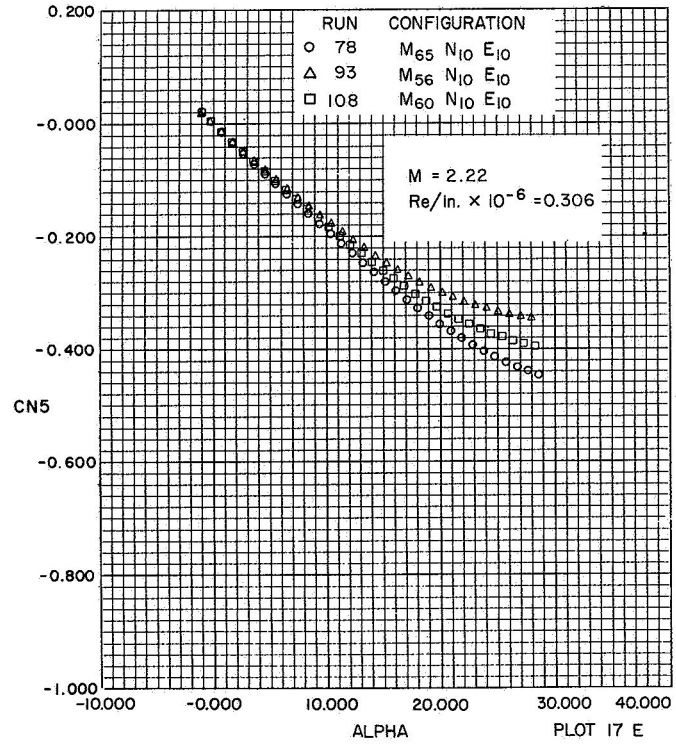

RUN CONFIGURATION
o 77 M65 N10 E10
Δ 91 M56 N10 E10
M=2.22
Re/in. × 10⁻⁶ =0.052
CPB
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 16G

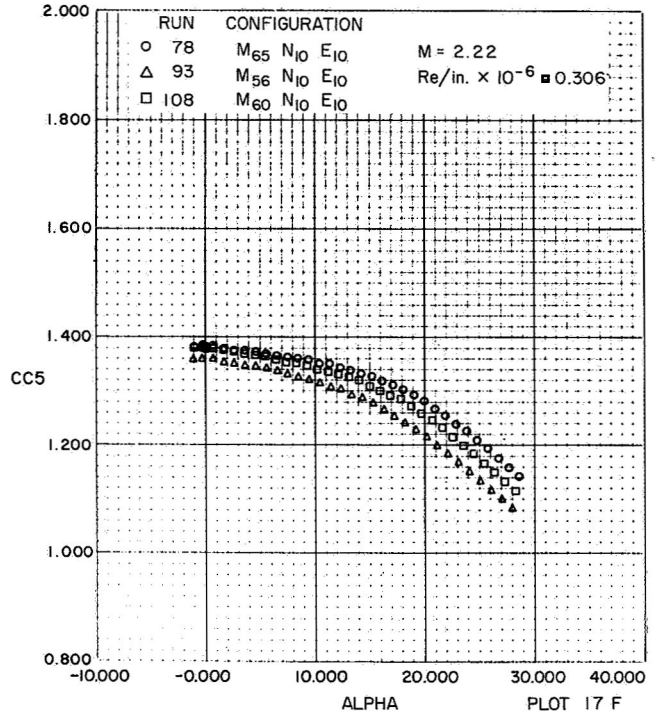

RUN CONFIGURATION
o 77 M65 N10 E10
Δ 91 M56 N10 E10
□ 106 M60 N10 E10
M=2.22
Re/in. × 10⁻⁶ =0.052
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 16H

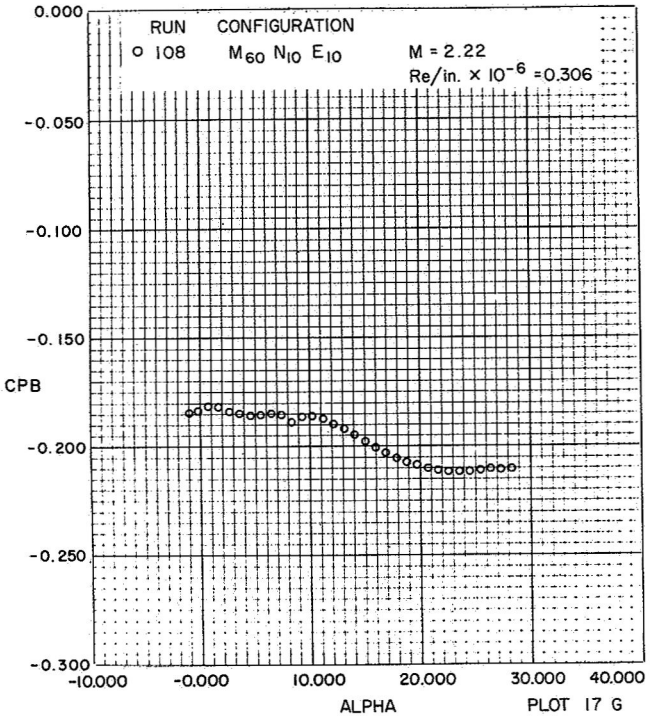

RUN CONFIGURATION
○ 78 M65 N10 E10
△ 93 M56 N10 E10
□ 108 M60 N10 E10
M = 2.22
Re/in. × 10⁻⁶ =0.306
CN3
ALPHA
PLOT 17 A

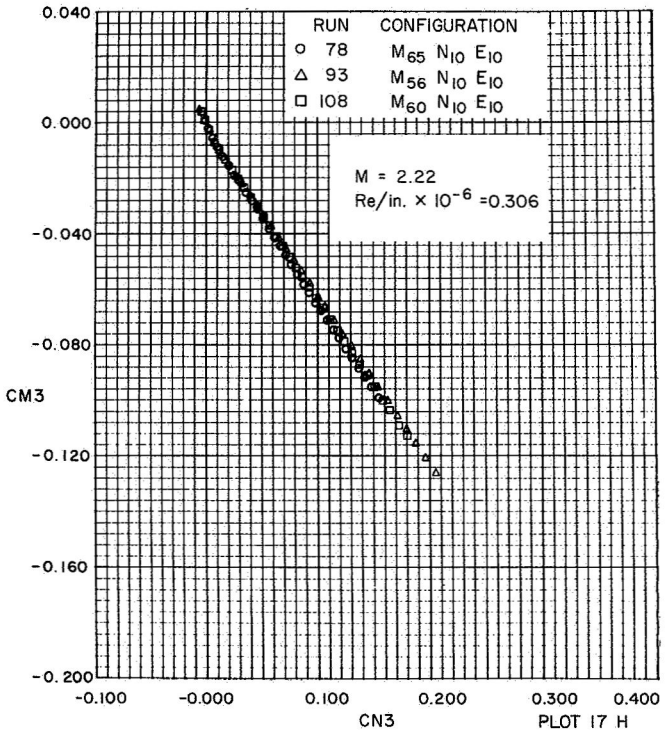

RUN CONFIGURATION
○ 78 M65 N10 E10
△ 93 M56 N10 E10
□ 108 M60 N10 E10
M = 2.22
Re/in. × 10⁻⁶ =0.306
CM3
ALPHA
PLOT 17 B

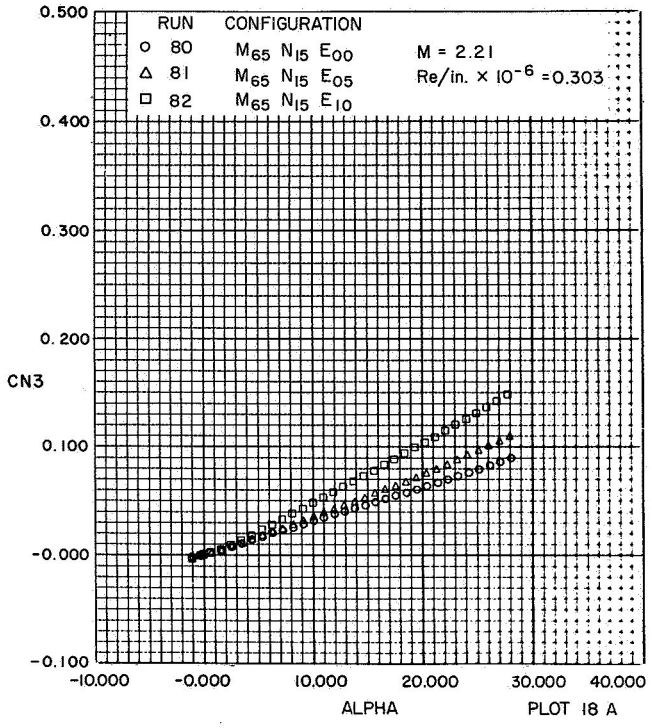

RUN CONFIGURATION
○ 78 M65 N10 E10
△ 93 M56 N10 E10
□ 108 M60 N10 E10
M = 2.22
Re/in. × 10⁻⁶ =0.306
CC3
ALPHA
PLOT 17 C

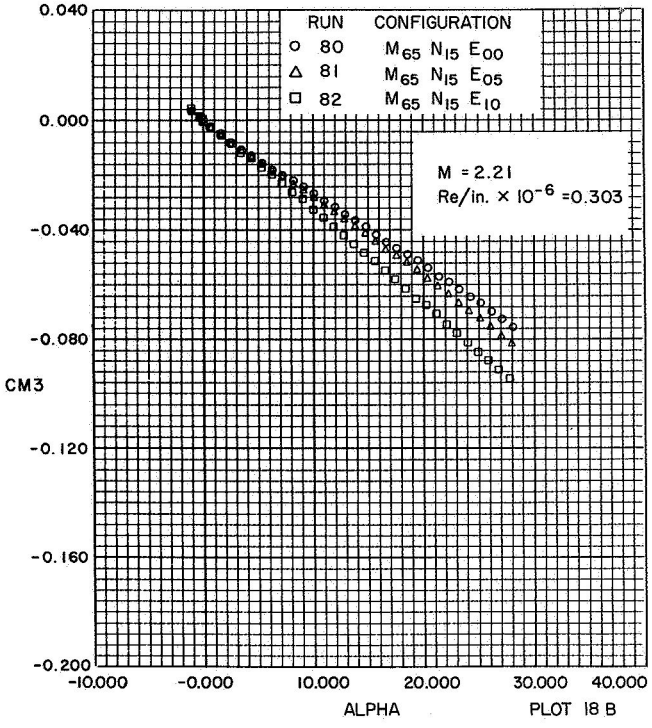

RUN CONFIGURATION
○ 78 M65 N10 E10
△ 93 M56 N10 E10
□ 108 M60 N10 E10
M = 2.22
Re/in. × 10⁻⁶ =0.306
CN5
ALPHA
PLOT 17 E

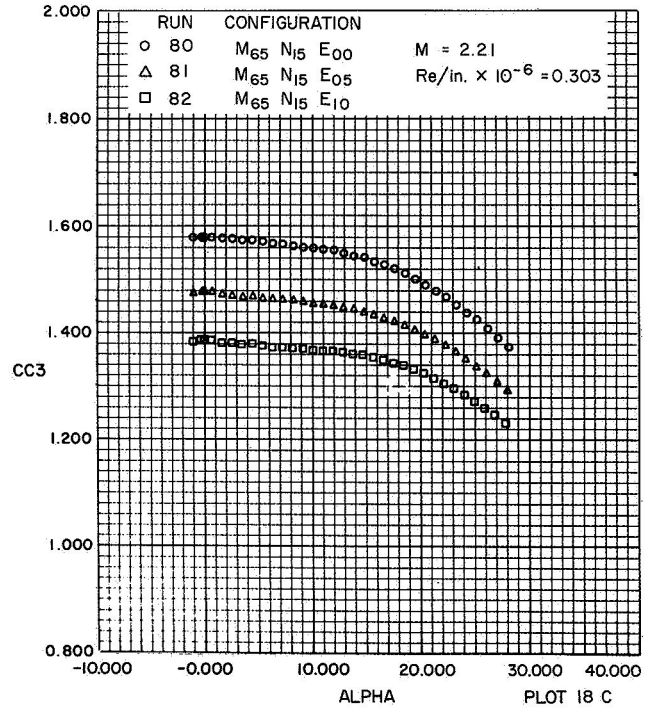

RUN CONFIGURATION
o 78 M65 N10 E10
Δ 93 M56 N10 E10
□ 108 M60 N10 E10
M = 2.22
Re/in. × 10-6 = 0.306
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 17 F

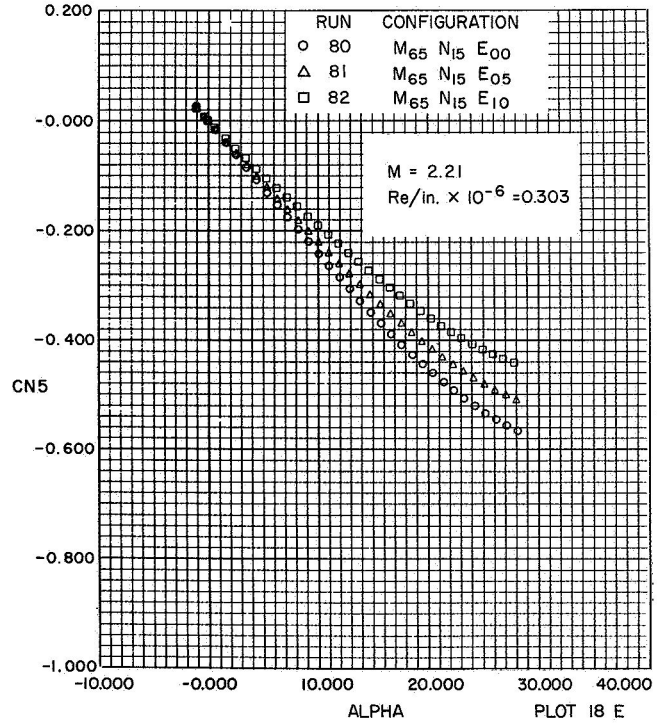

RUN CONFIGURATION
o 108 M60 N10 E10
M = 2.22
Re/in. × 10-6 = 0.306
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 17 G

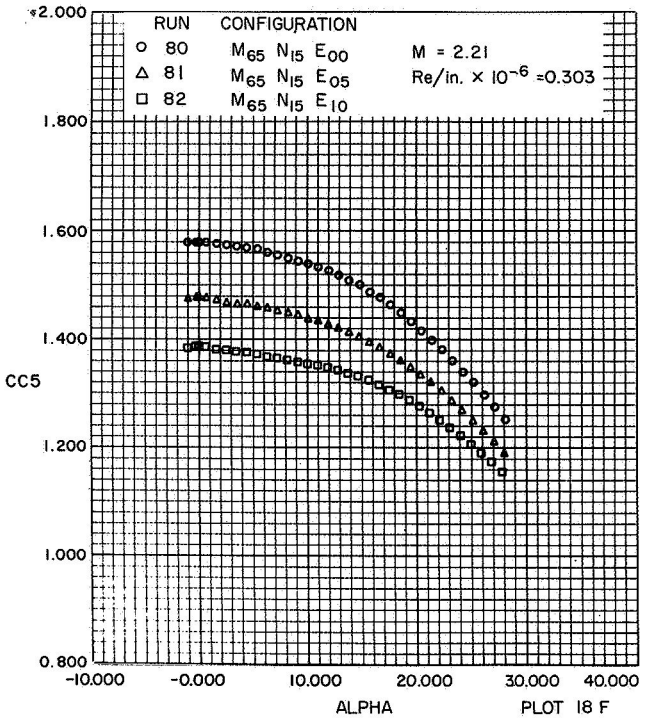

RUN CONFIGURATION
o 78 M65 N10 E10
Δ 93 M56 N10 E10
□ 108 M60 N10 E10
M = 2.22
Re/in. × 10-6 = 0.306
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 17 H

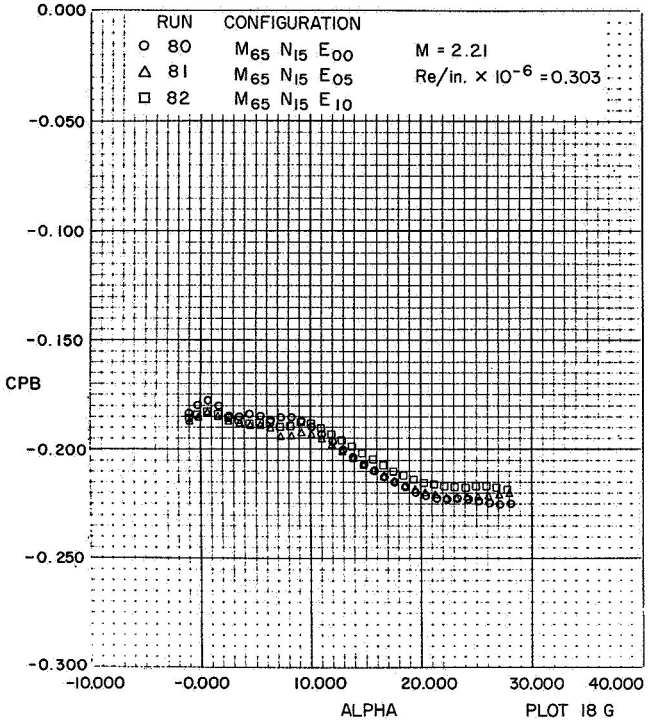

RUN CONFIGURATION
○ 80 M_{65} N_{15} E_{00}
△ 81 M_{65} N_{15} E_{05}
□ 82 M_{65} N_{15} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.303
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 18 A

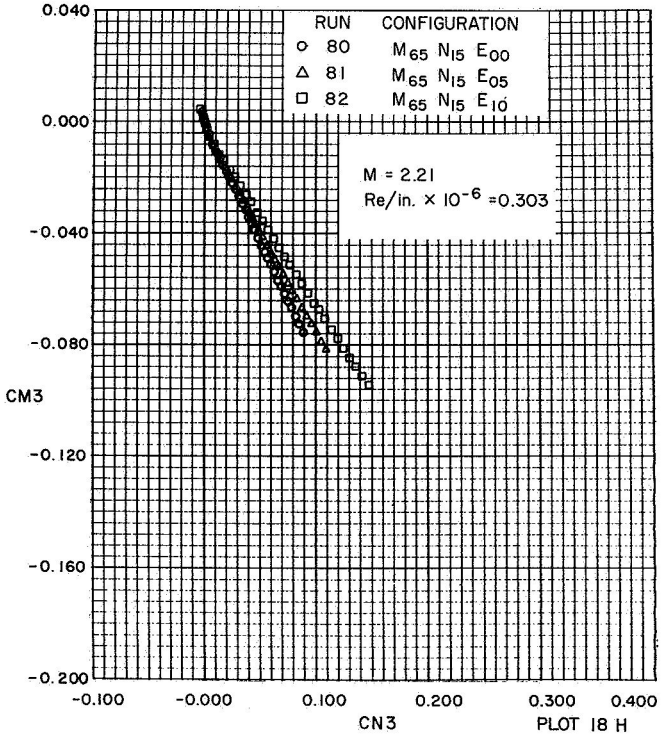

RUN CONFIGURATION
○ 80 M_{65} N_{15} E_{00}
△ 81 M_{65} N_{15} E_{05}
□ 82 M_{65} N_{15} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.303
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 18 B

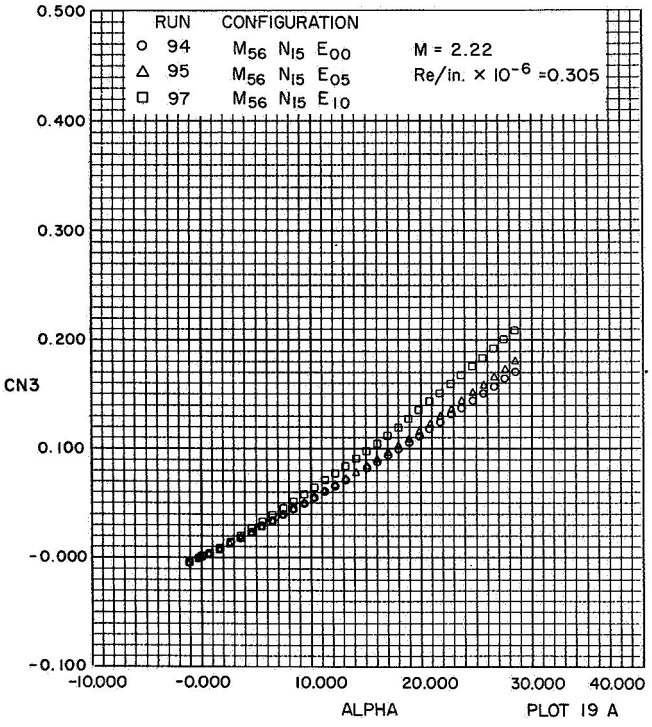

RUN CONFIGURATION
○ 80 M_{65} N_{15} E_{00}
△ 81 M_{65} N_{15} E_{05}
□ 82 M_{65} N_{15} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.303
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 18 C

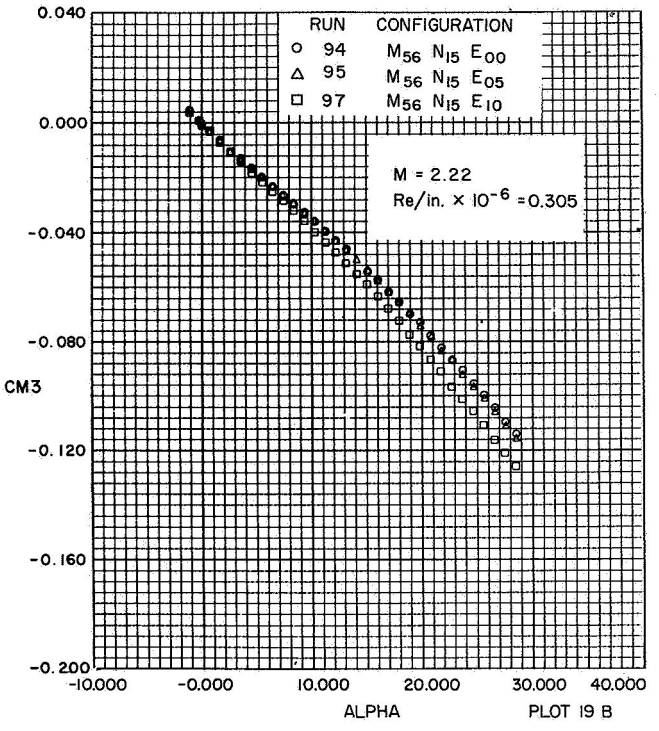

RUN CONFIGURATION
○ 80 M_{65} N_{15} E_{00}
△ 81 M_{65} N_{15} E_{05}
□ 82 M_{65} N_{15} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.303
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 18 E

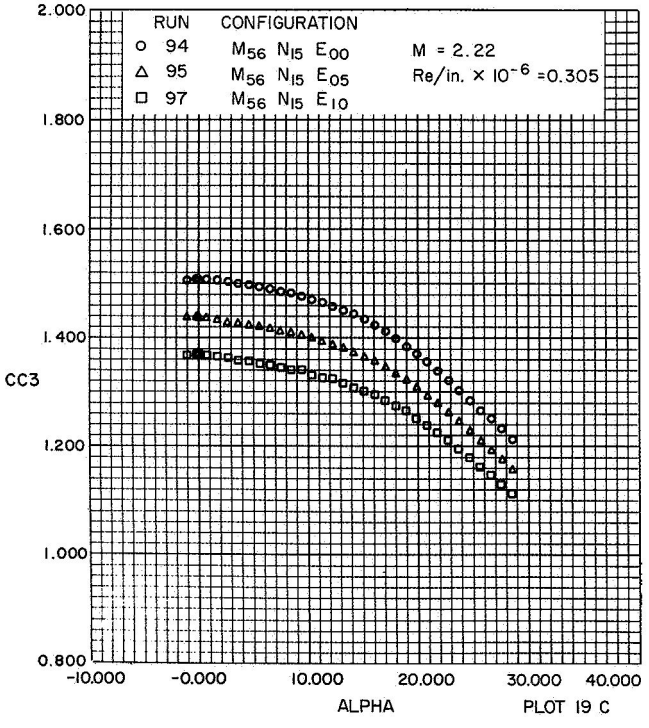

RUN CONFIGURATION
○ 80 M65 N15 E00
△ 81 M65 N15 E05
□ 82 M65 N15 E10
M = 2.21
Re/in. × 10⁻⁶ =0.303
CC5
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 18 F

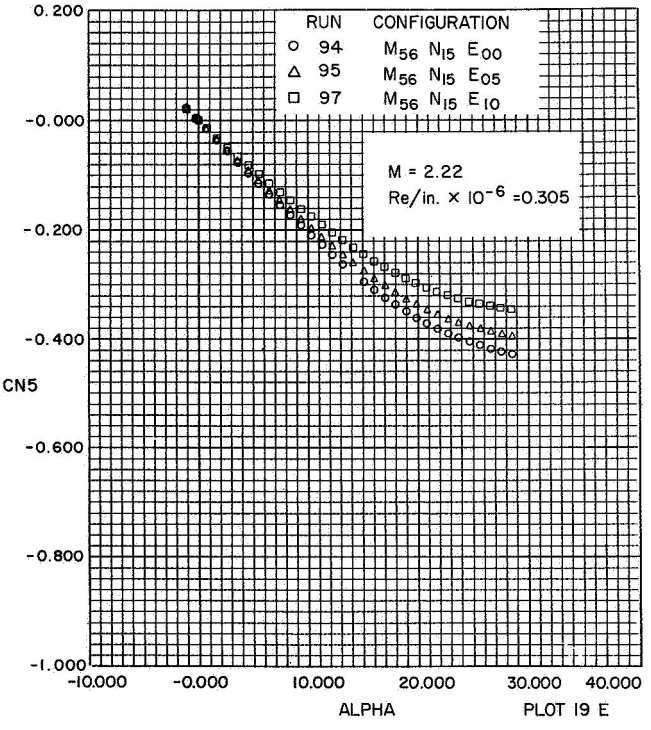

RUN CONFIGURATION
○ 80 M65 N15 E00
△ 81 M65 N15 E05
□ 82 M65 N15 E10
M = 2.21
Re/in. × 10⁻⁶ =0.303
CPB
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 18 G

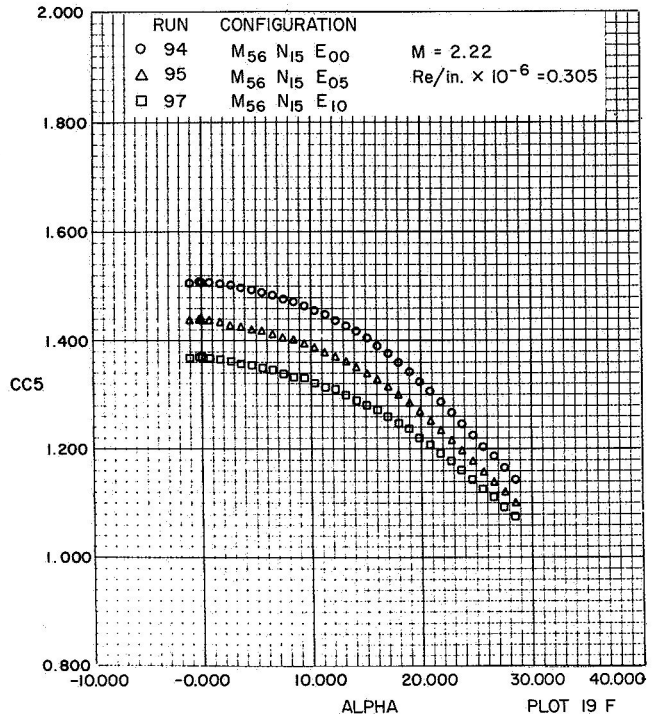

RUN CONFIGURATION
○ 80 M65 N15 E00
△ 81 M65 N15 E05
□ 82 M65 N15 E10
M = 2.21
Re/in. × 10⁻⁶ =0.303
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 18 H

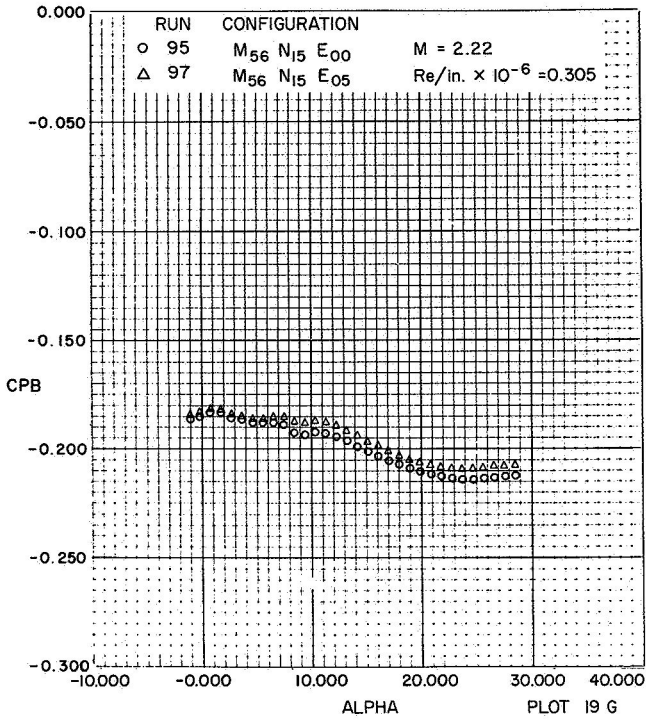

RUN CONFIGURATION
○ 94 M56 N15 E00
△ 95 M56 N15 E05
□ 97 M56 N15 E10
M = 2.22
Re/in. × 10⁻⁶ =0.305
CN3
ALPHA
PLOT 19 A

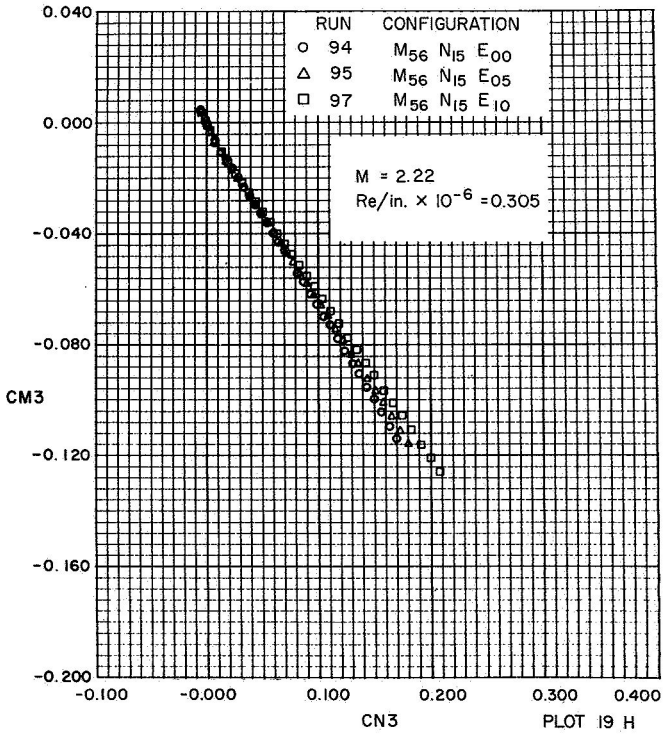

RUN CONFIGURATION
○ 94 M56 N15 E00
△ 95 M56 N15 E05
□ 97 M56 N15 E10
M = 2.22
Re/in. × 10⁻⁶ =0.305
CM3
ALPHA
PLOT 19 B

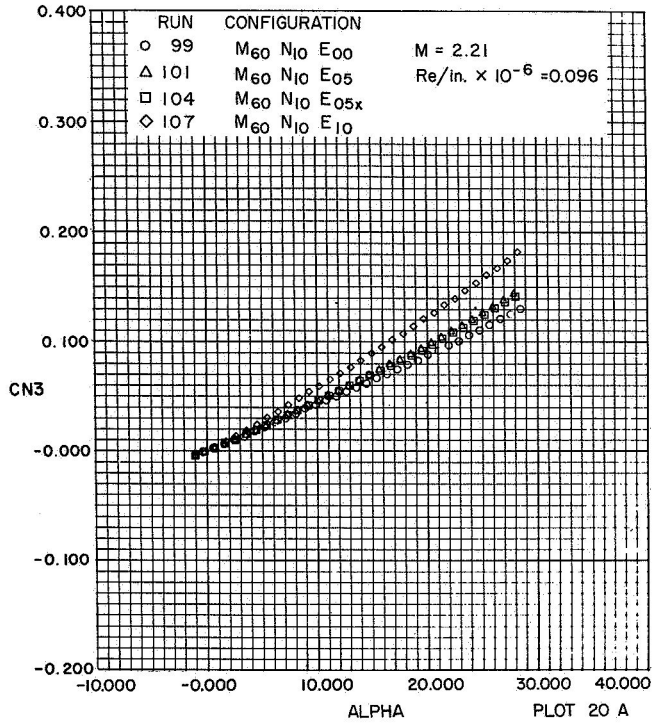

RUN CONFIGURATION
○ 94 M56 N15 E00
△ 95 M56 N15 E05
□ 97 M56 N15 E10
M = 2.22
Re/in. × 10⁻⁶ =0.305
CC3
ALPHA
PLOT 19 C

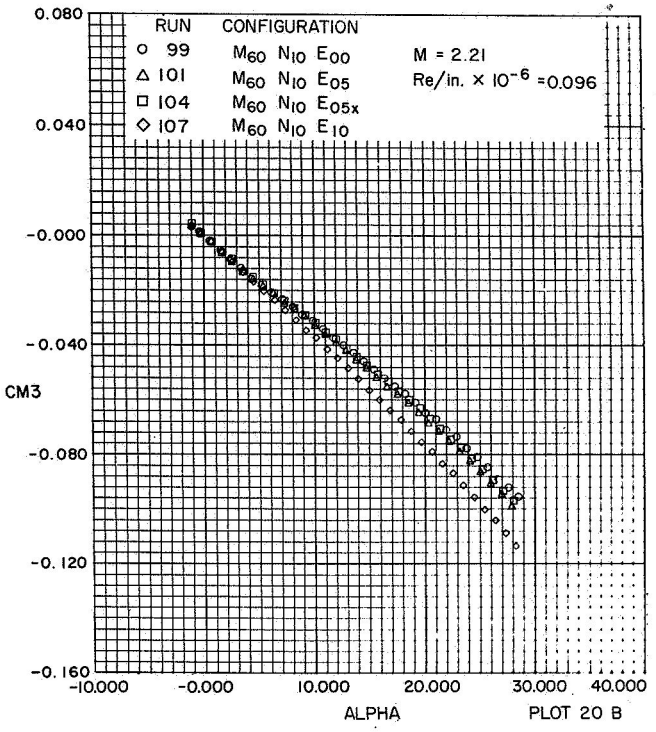

RUN CONFIGURATION
○ 94 M56 N15 E00
△ 95 M56 N15 E05
□ 97 M56 N15 E10
M = 2.22
Re/in. × 10⁻⁶ =0.305
CN5
ALPHA
PLOT 19 E

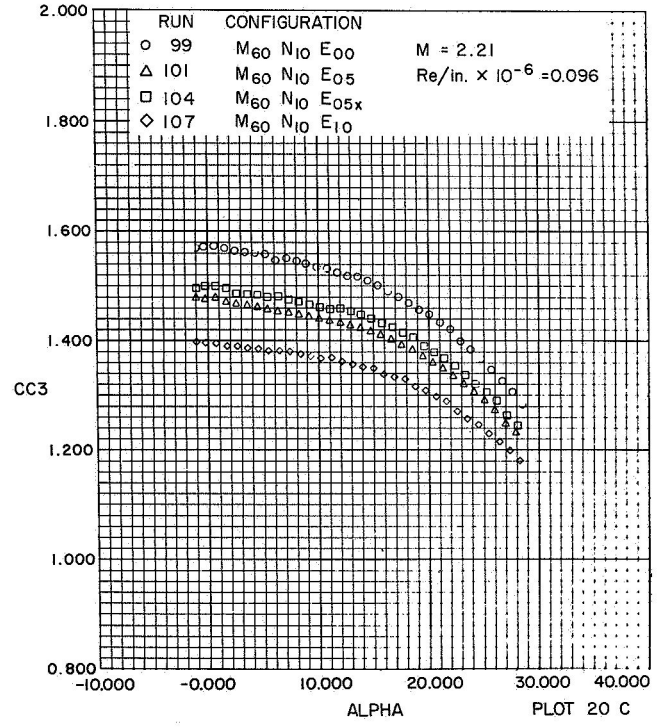

RUN CONFIGURATION
o 94 M_{56} N_{15} E_{00}
Δ 95 M_{56} N_{15} E_{05}
□ 97 M_{56} N_{15} E_{10}
M = 2.22
Re/in. × 10^{-6} =0.305
CC5
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 19 F

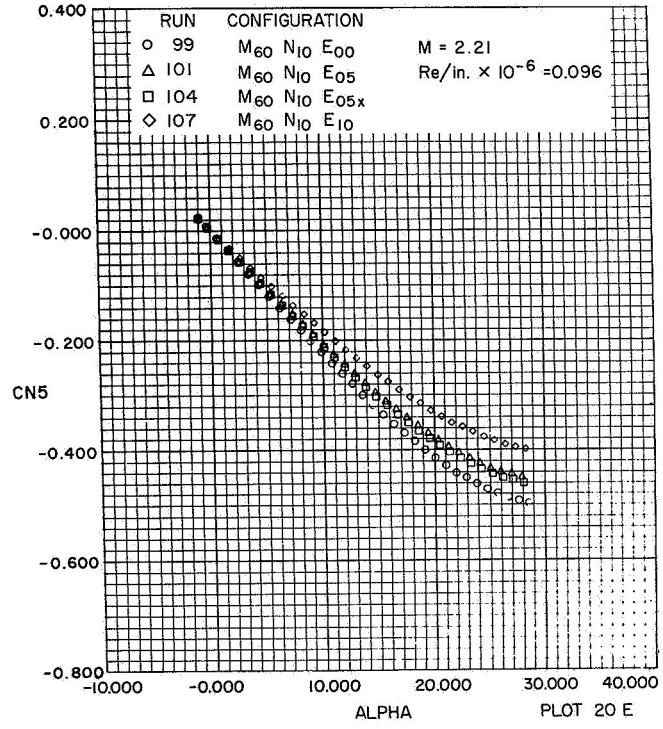

RUN CONFIGURATION
o 95 M_{56} N_{15} E_{00}
Δ 97 M_{56} N_{15} E_{05}
M = 2.22
Re/in. × 10^{-6} =0.305
CPB
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 19 G

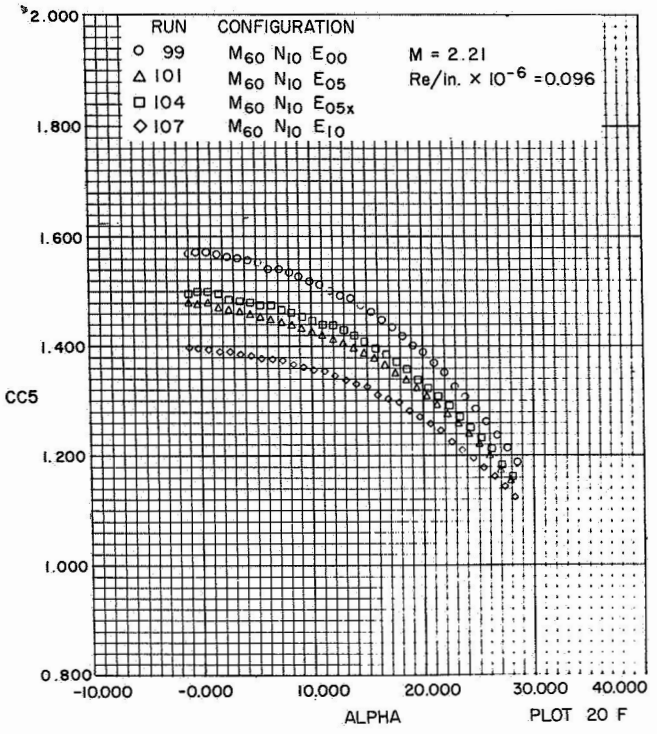

RUN CONFIGURATION
o 94 M_{56} N_{15} E_{00}
Δ 95 M_{56} N_{15} E_{05}
□ 97 M_{56} N_{15} E_{10}
M = 2.22
Re/in. × 10^{-6} =0.305
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 19 H

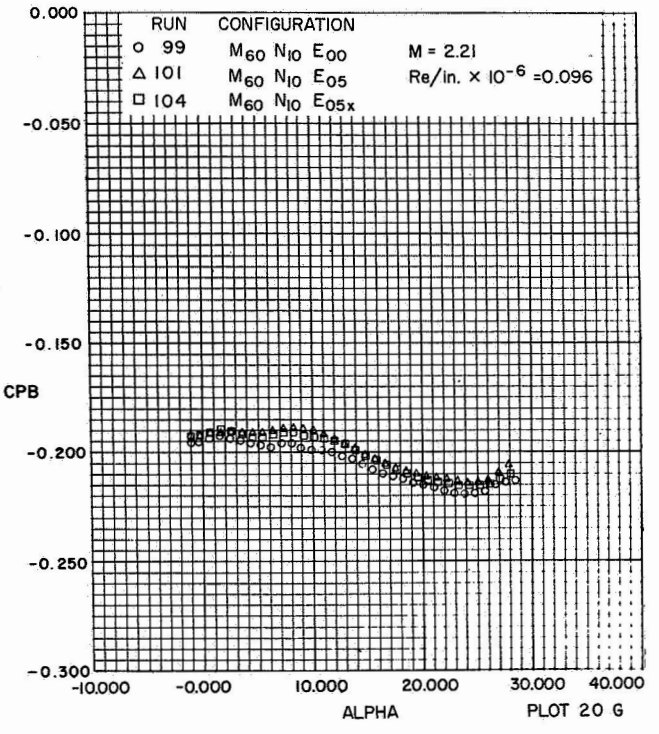

RUN CONFIGURATION
○ 99 M_{60} N_{10} E_{00}
△ 101 M_{60} N_{10} E_{05}
□ 104 M_{60} N_{10} E_{05x}
◇ 107 M_{60} N_{10} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.096
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 20 A

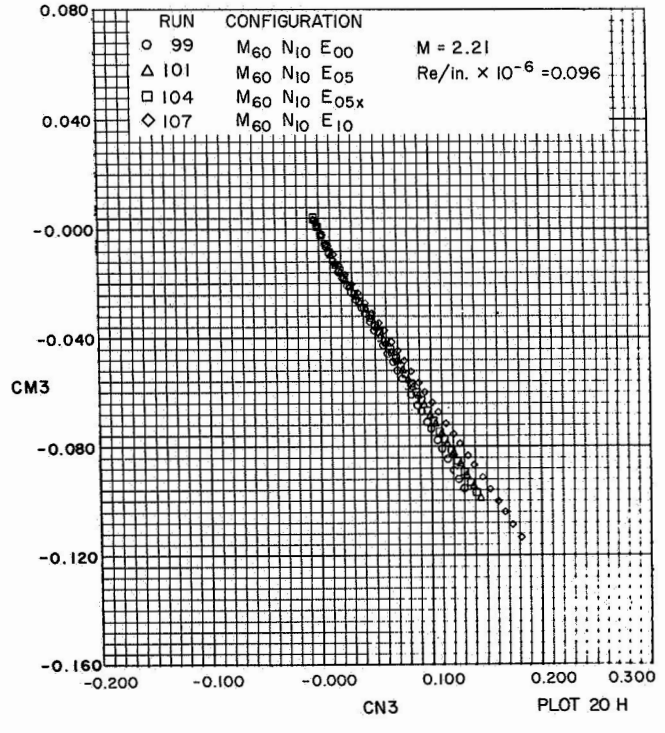

RUN CONFIGURATION
○ 99 M_{60} N_{10} E_{00}
△ 101 M_{60} N_{10} E_{05}
□ 104 M_{60} N_{10} E_{05x}
◇ 107 M_{60} N_{10} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.096
CM3
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 20 B

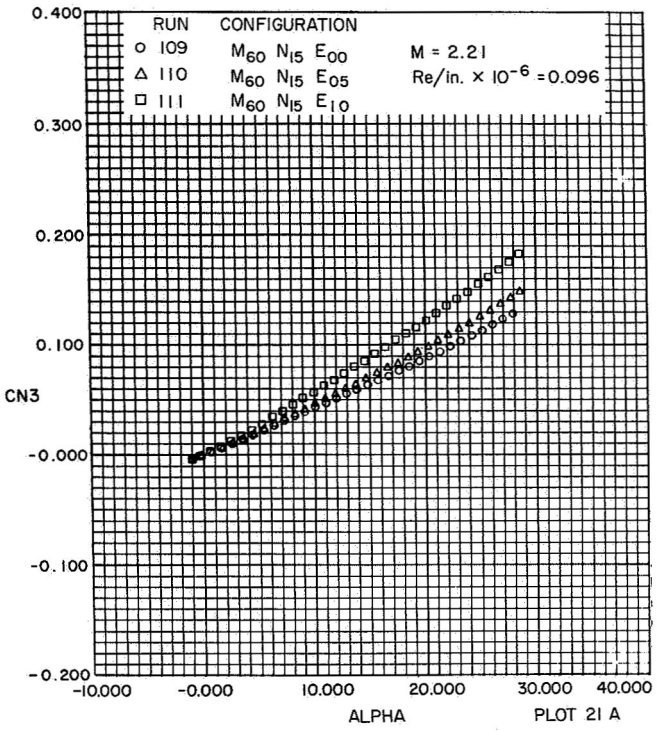

RUN CONFIGURATION
○ 99 M_{60} N_{10} E_{00}
△ 101 M_{60} N_{10} E_{05}
□ 104 M_{60} N_{10} E_{05x}
◇ 107 M_{60} N_{10} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.096
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 20 C


RUN CONFIGURATION
○ 99 M_{60} N_{10} E_{00}
△ 101 M_{60} N_{10} E_{05}
□ 104 M_{60} N_{10} E_{05x}
◇ 107 M_{60} N_{10} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.096
CN5
0.400
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 20 E

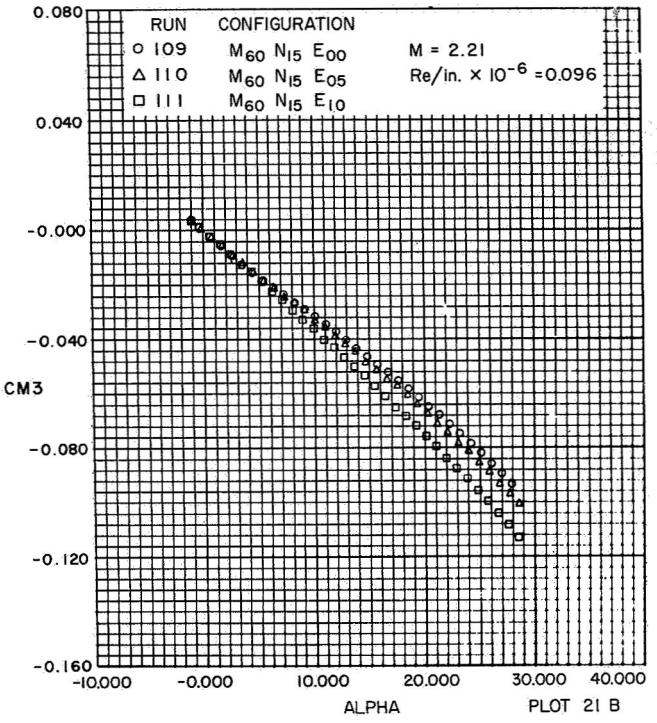

RUN CONFIGURATION
○ 99 M_{60} N_{10} E_{00}
△ 101 M_{60} N_{10} E_{05}
□ 104 M_{60} N_{10} E_{05x}
◇ 107 M_{60} N_{10} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.096
CC5
ALPHA
PLOT 20 F


RUN CONFIGURATION
○ 99 M_{60} N_{10} E_{00}
△ 101 M_{60} N_{10} E_{05}
□ 104 M_{60} N_{10} E_{05x}
M = 2.21
Re/in. × 10^{-6} =0.096
CPB
ALPHA
PLOT 20 G

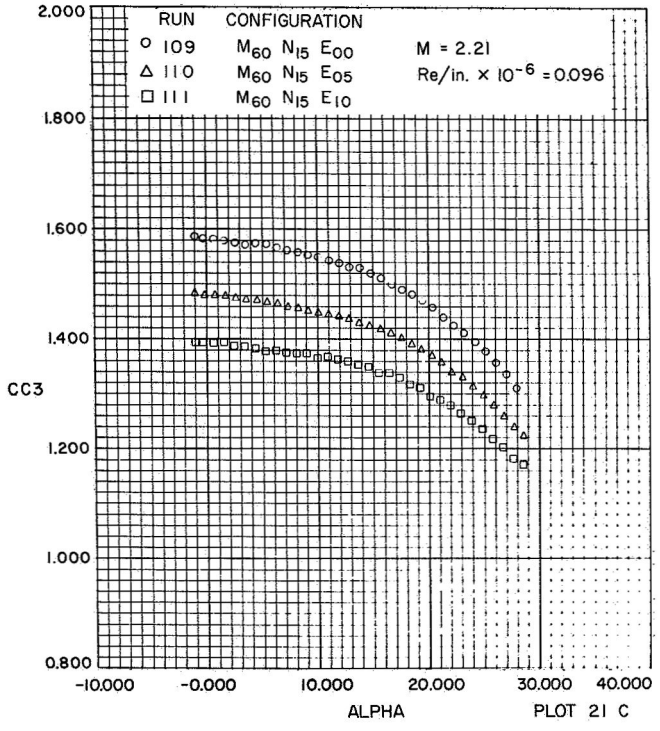

RUN CONFIGURATION
○ 99 M_{60} N_{10} E_{00}
△ 101 M_{60} N_{10} E_{05}
□ 104 M_{60} N_{10} E_{05x}
◇ 107 M_{60} N_{10} E_{10}
M = 2.21
Re/in. × 10^{-6} =0.096
CM3
CN3
PLOT 20 H



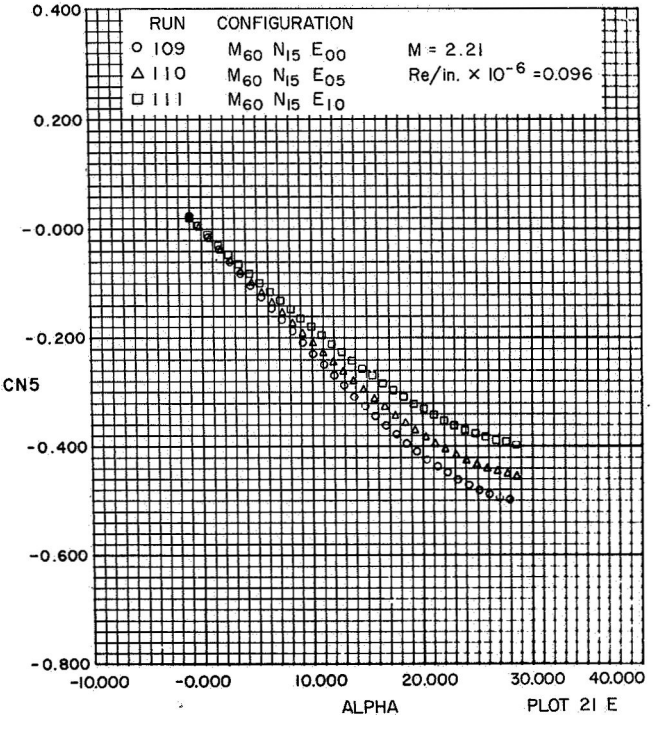
PLOT 21 A



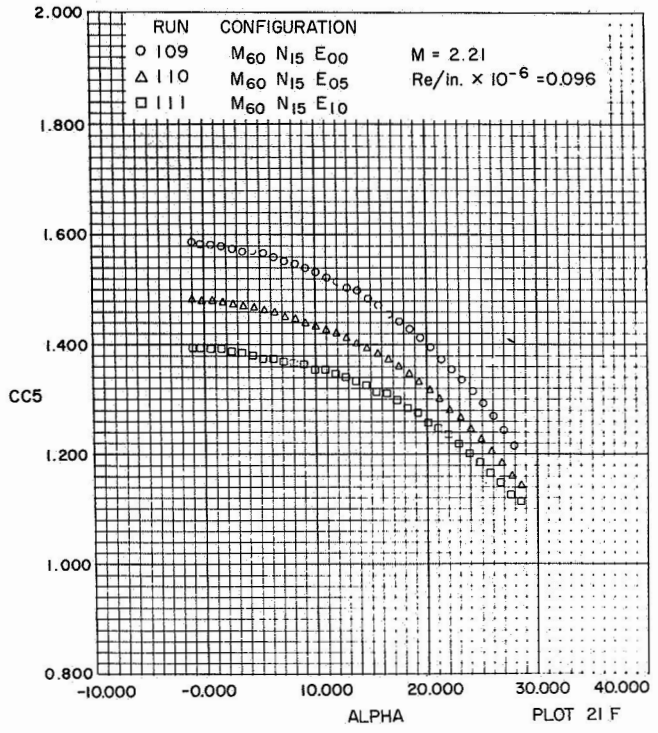
PLOT 21 B

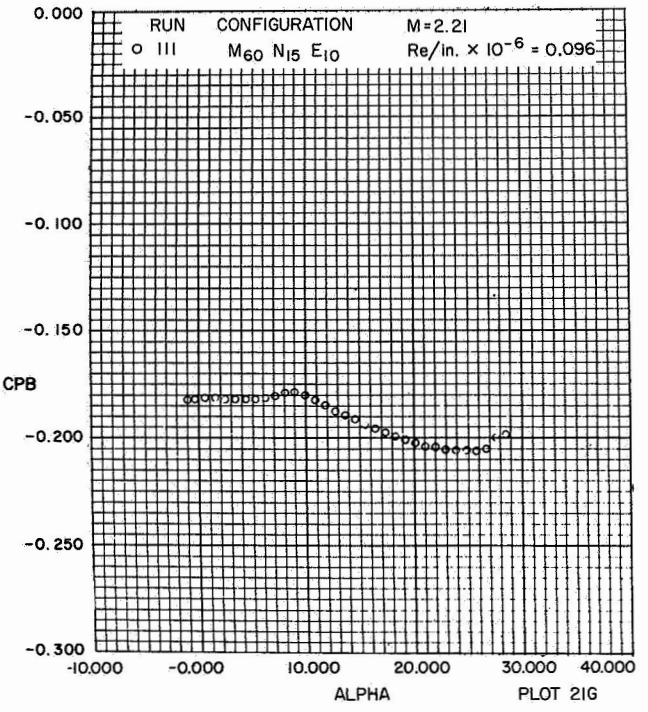


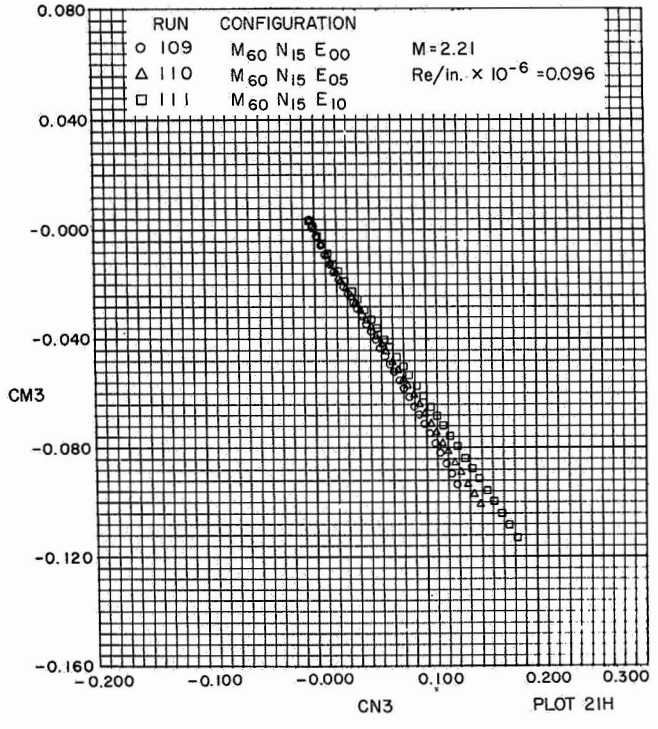
PLOT 21 C

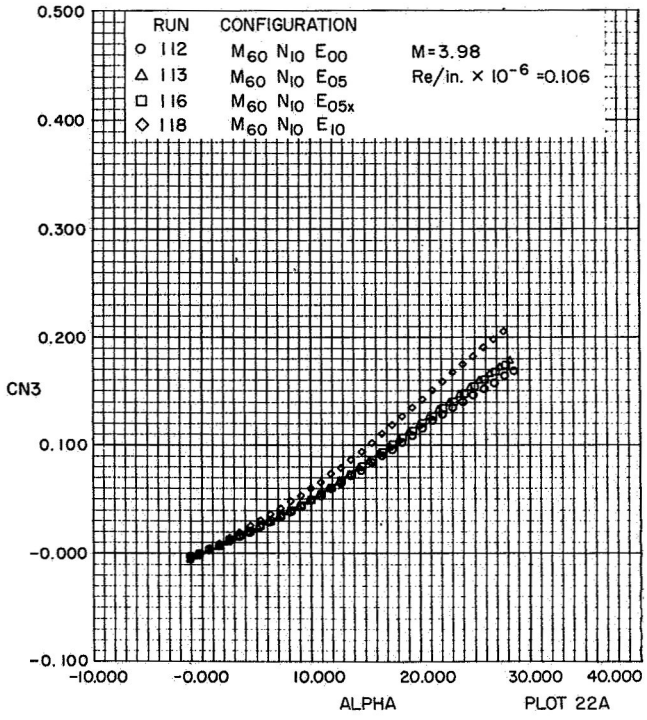


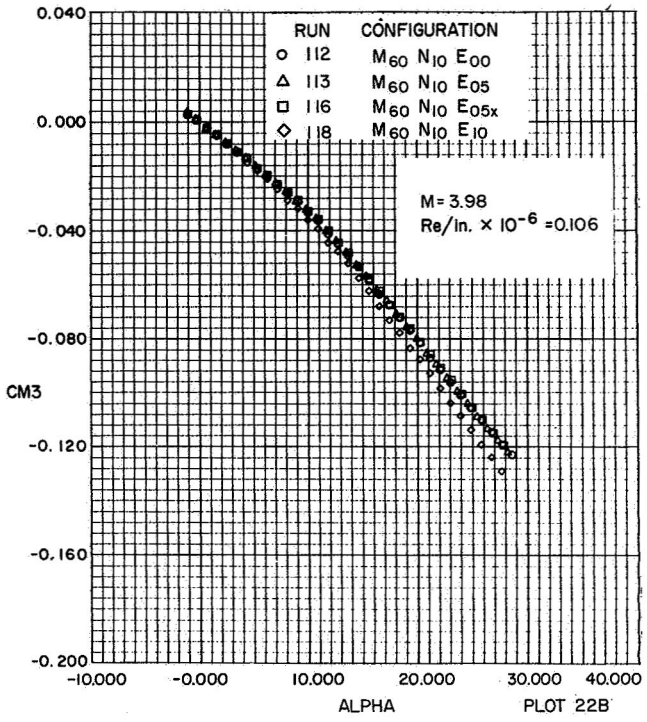
PLOT 21 E

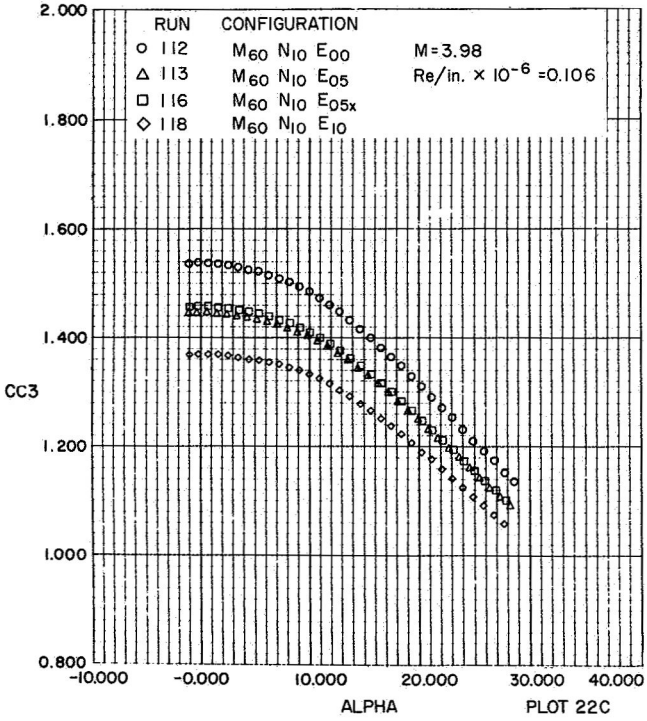

RUN CONFIGURATION
o 109 M60 N15 E00
Δ 110 M60 N15 E05
□ 111 M60 N15 E10
M = 2.21
Re/in. × 10⁻⁶ =0.096
CC5
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 21 F

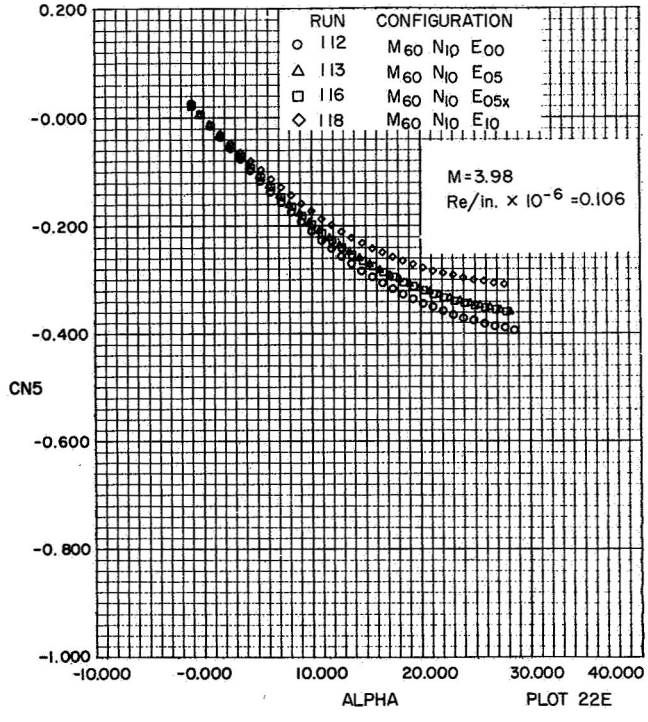

RUN CONFIGURATION
o 111 M60 N15 E10
M=2.21
Re/in. × 10⁻⁶ = 0.096
CPB
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 21G

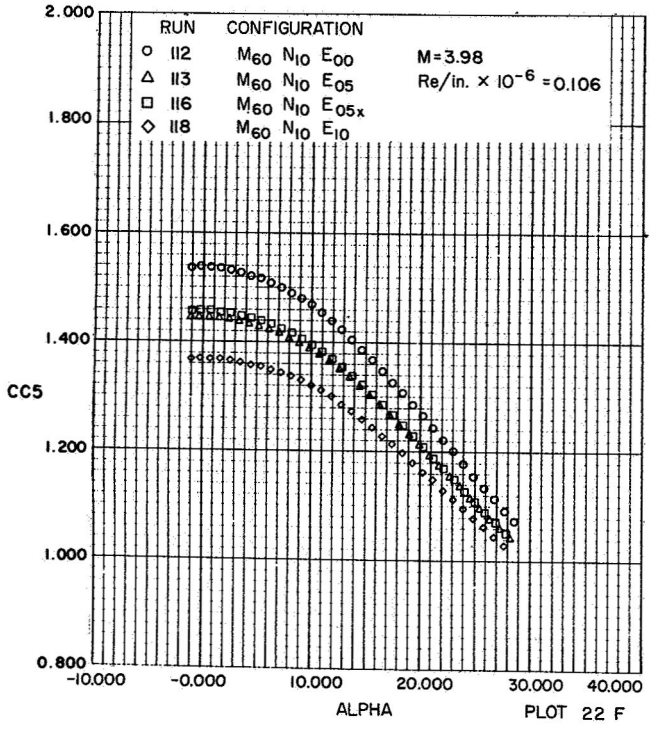

RUN CONFIGURATION
o 109 M60 N15 E00
Δ 110 M60 N15 E05
□ 111 M60 N15 E10
M=2.21
Re/in. × 10⁻⁶ =0.096
CM3
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT 21H

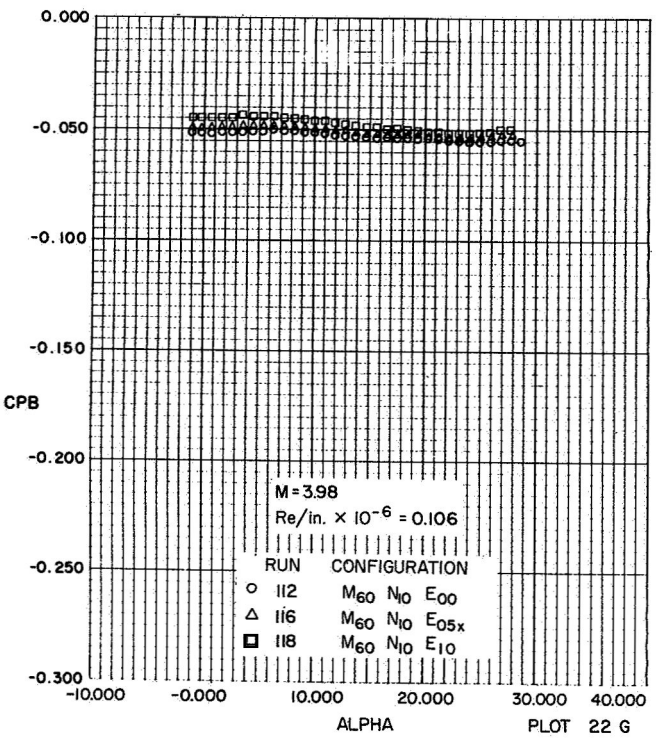

RUN CONFIGURATION
○ 112 M60 N10 E00
△ 113 M60 N10 E05
□ 116 M60 N10 E05x
◇ 118 M60 N10 E10
M=3.98
Re/in. × 10⁻⁶ =0.106
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 22A

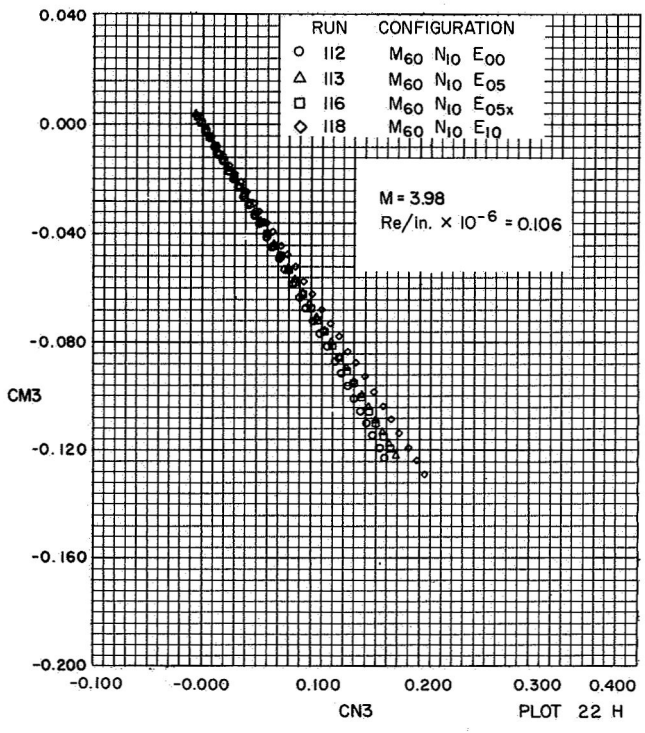

RUN CONFIGURATION
○ 112 M60 N10 E00
△ 113 M60 N10 E05
□ 116 M60 N10 E05x
◇ 118 M60 N10 E10
M=3.98
Re/in. × 10⁻⁶ =0.106
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 22B

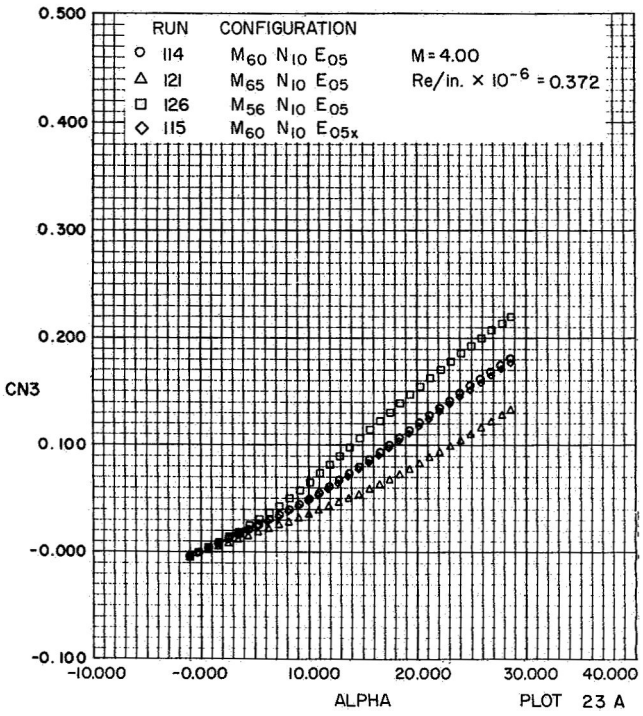

RUN CONFIGURATION
○ 112 M60 N10 E00
△ 113 M60 N10 E05
□ 116 M60 N10 E05x
◇ 118 M60 N10 E10
M=3.98
Re/in. × 10⁻⁶ =0.106
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 22C

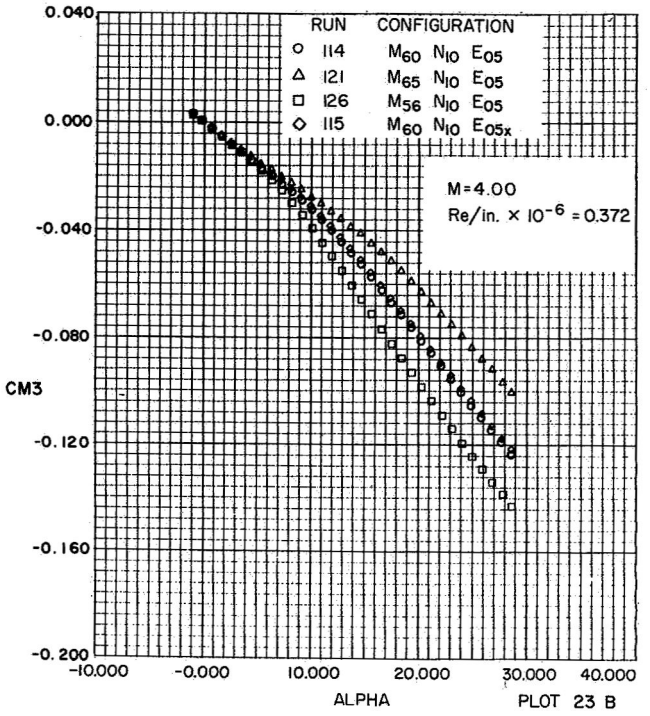

RUN CONFIGURATION
○ 112 M60 N10 E00
△ 113 M60 N10 E05
□ 116 M60 N10 E05x
◇ 118 M60 N10 E10
M=3.98
Re/in. × 10⁻⁶ =0.106
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 22E

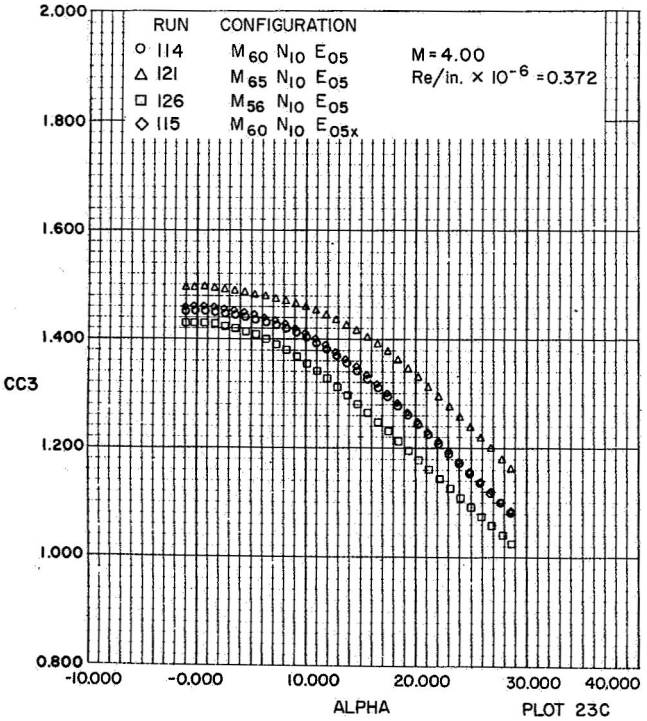

RUN CONFIGURATION
112 M60 N10 E00
113 M60 N10 E05
116 M60 N10 E05x
118 M60 N10 E10
M=3.98
Re/in. × 10-6 =0.106
CC5
ALPHA
PLOT 22 F

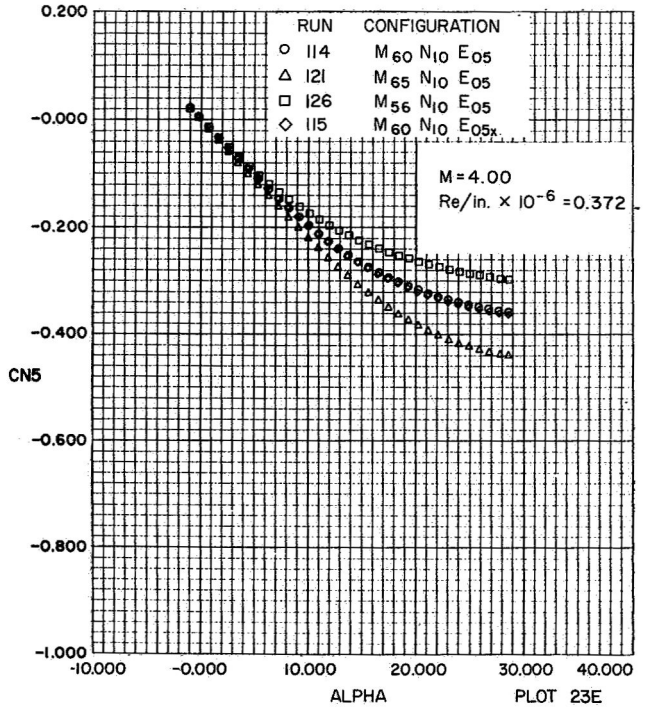

M=3.98
Re/in. × 10-6 = 0.106
RUN CONFIGURATION
112 M60 N10 E00
116 M60 N10 E05x
118 M60 N10 E10
CPB
ALPHA
PLOT 22 G

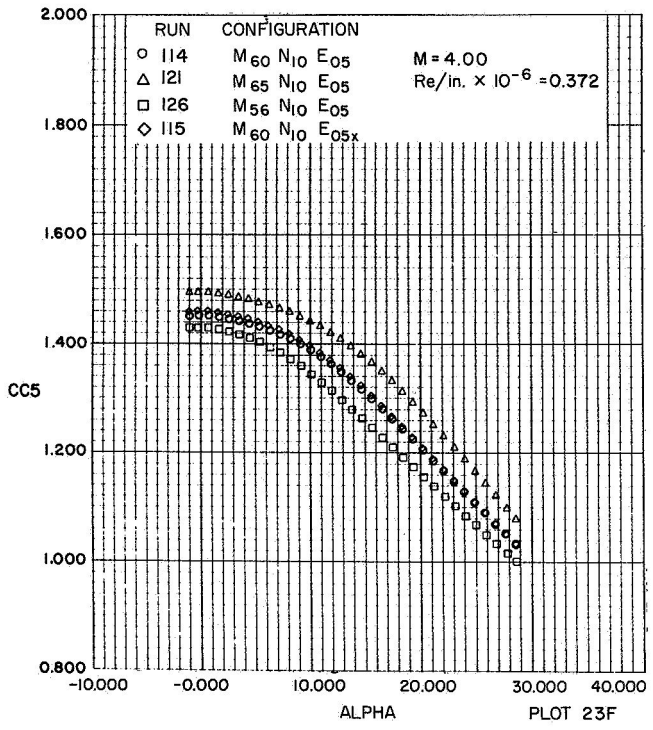

RUN CONFIGURATION
112 M60 N10 E00
113 M60 N10 E05
116 M60 N10 E05x
118 M60 N10 E10
M = 3.98
Re/in. × 10-6 = 0.106
CM3
CN3
PLOT 22 H

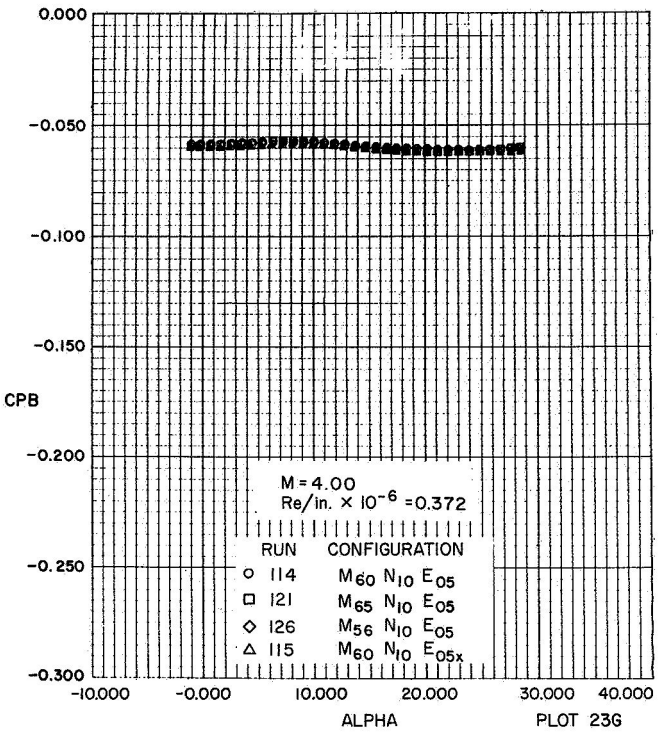

RUN CONFIGURATION
○ 114 M60 N10 E05
△ 121 M65 N10 E05
□ 126 M56 N10 E05
◇ 115 M60 N10 E05x
M=4.00
Re/in. × 10⁻⁶ = 0.372
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 23 A

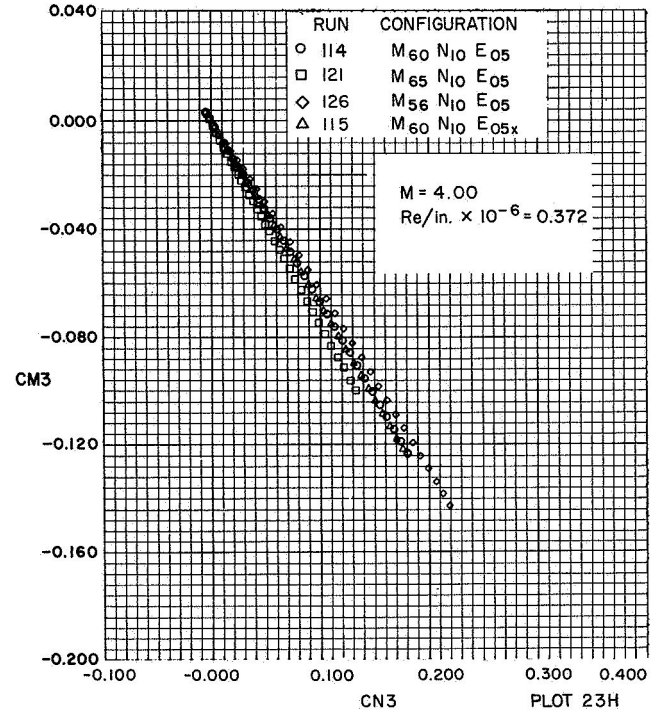

RUN CONFIGURATION
○ 114 M60 N10 E05
△ 121 M65 N10 E05
□ 126 M56 N10 E05
◇ 115 M60 N10 E05x
M=4.00
Re/in. × 10⁻⁶ = 0.372
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 23 B

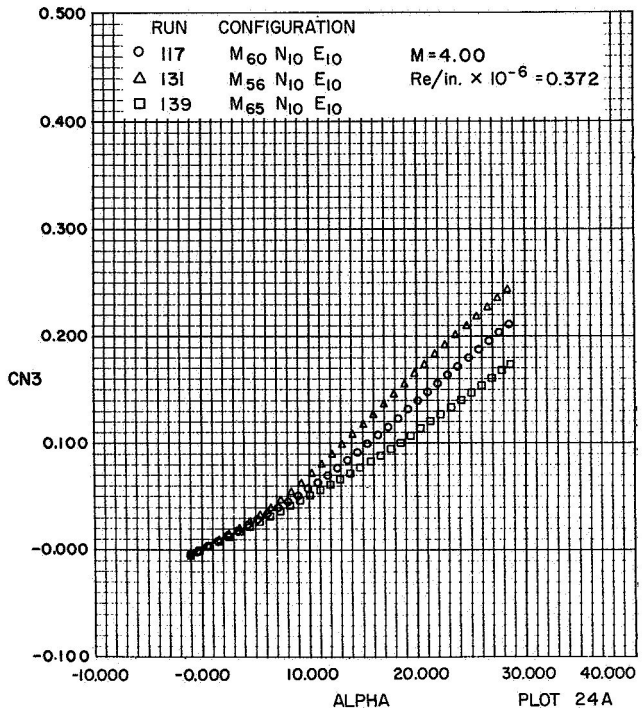

RUN CONFIGURATION
○ 114 M60 N10 E05
△ 121 M65 N10 E05
□ 126 M56 N10 E05
◇ 115 M60 N10 E05x
M=4.00
Re/in. × 10⁻⁶ = 0.372
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 23C

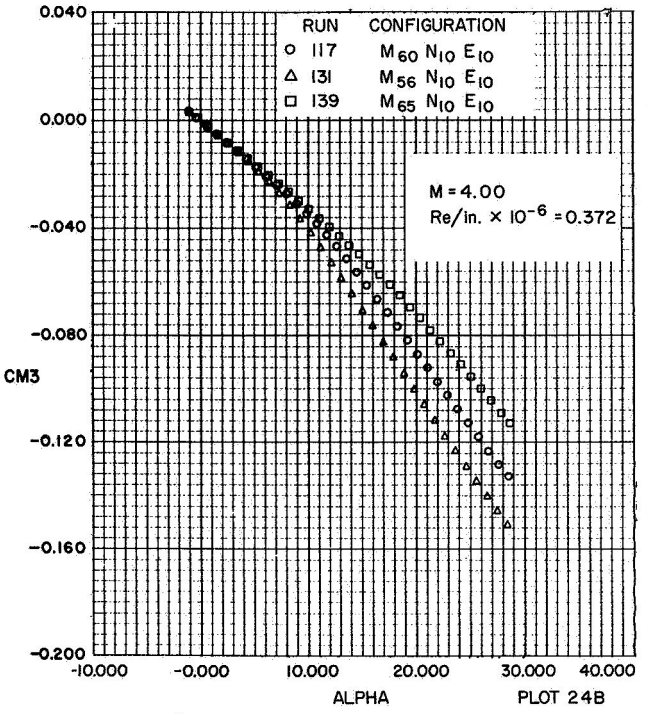

RUN CONFIGURATION
○ 114 M60 N10 E05
△ 121 M65 N10 E05
□ 126 M56 N10 E05
◇ 115 M60 N10 E05x
M=4.00
Re/in. × 10⁻⁶ = 0.372
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 23E

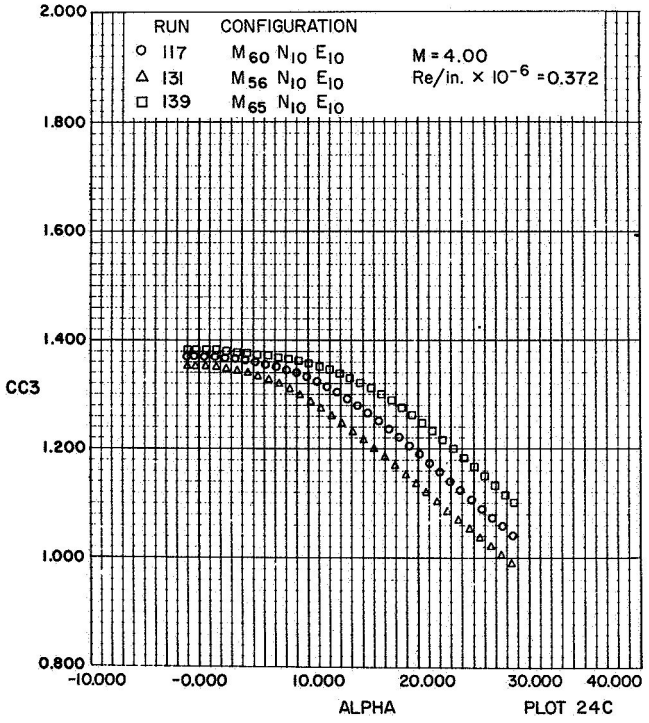

RUN CONFIGURATION
○ 114 M60 N10 E05
△ 121 M65 N10 E05
□ 126 M56 N10 E05
◇ 115 M60 N10 E05x
M=4.00
Re/in. × 10-6 =0.372
CC5
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 23F

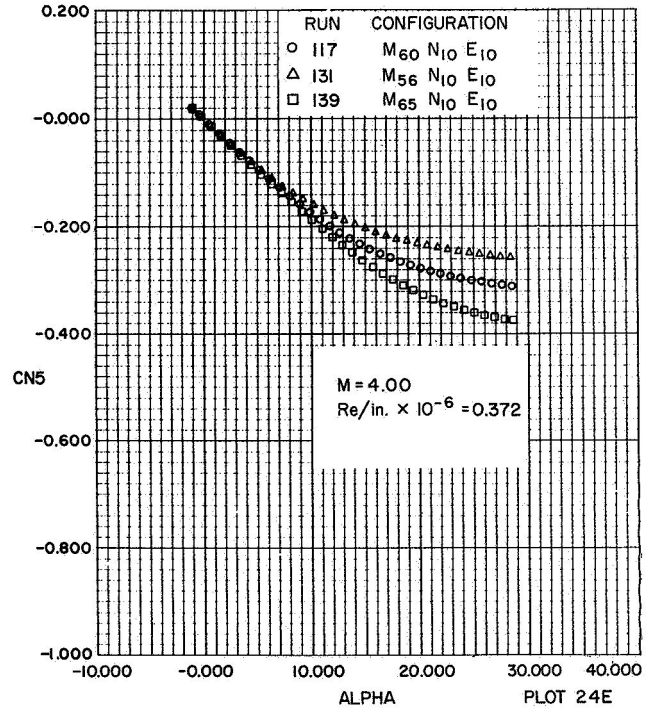

0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
M=4.00
Re/in. × 10-6 =0.372
RUN CONFIGURATION
○ 114 M60 N10 E05
□ 121 M65 N10 E05
◇ 126 M56 N10 E05
△ 115 M60 N10 E05x
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 23G

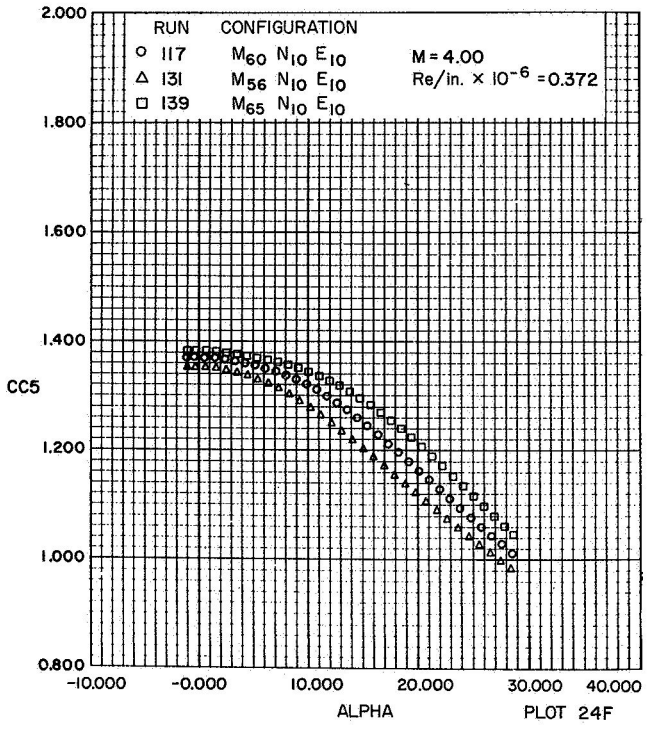

RUN CONFIGURATION
○ 114 M60 N10 E05
□ 121 M65 N10 E05
◇ 126 M56 N10 E05
△ 115 M60 N10 E05x
M = 4.00
Re/in. × 10-6 = 0.372
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 23H

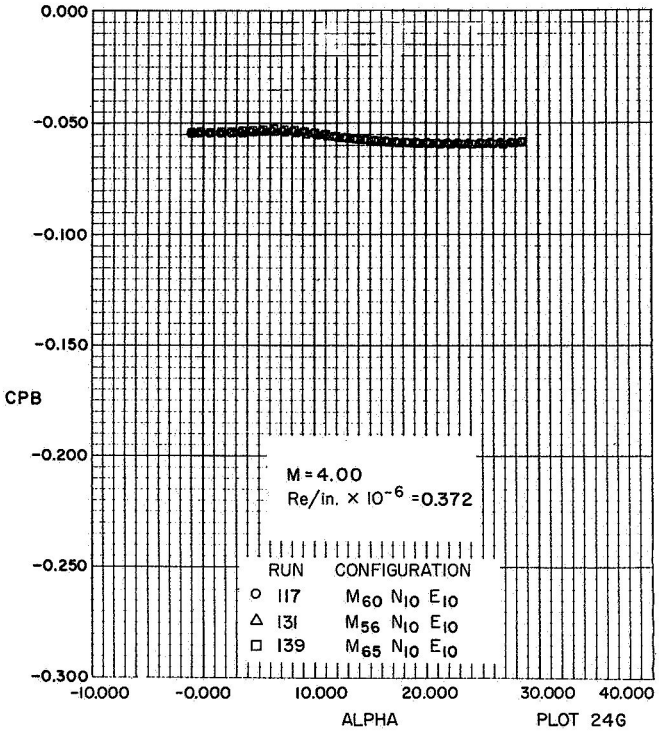

RUN CONFIGURATION
o 117 M60 N10 E10
Δ 131 M56 N10 E10
□ 139 M65 N10 E10
M=4.00
Re/in. × 10⁻⁶ =0.372
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 24A

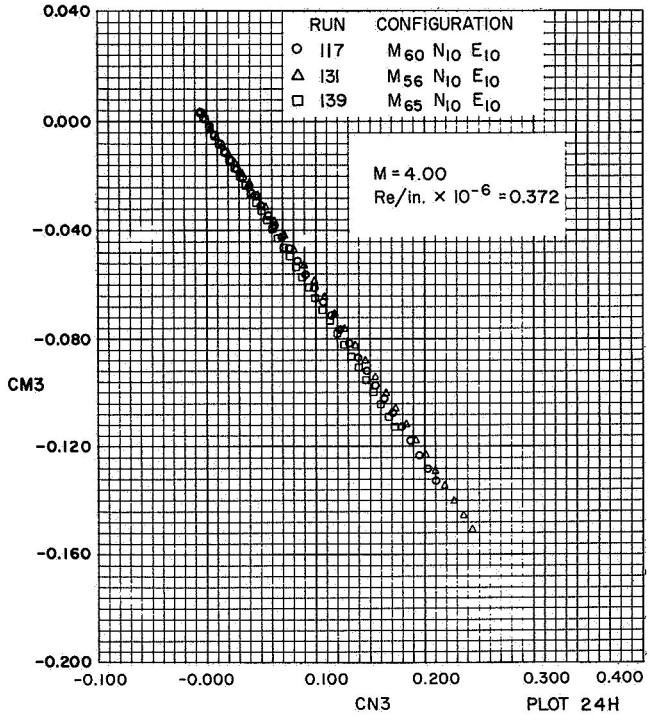

RUN CONFIGURATION
o 117 M60 N10 E10
Δ 131 M56 N10 E10
□ 139 M65 N10 E10
M=4.00
Re/in. × 10⁻⁶ =0.372
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 24B

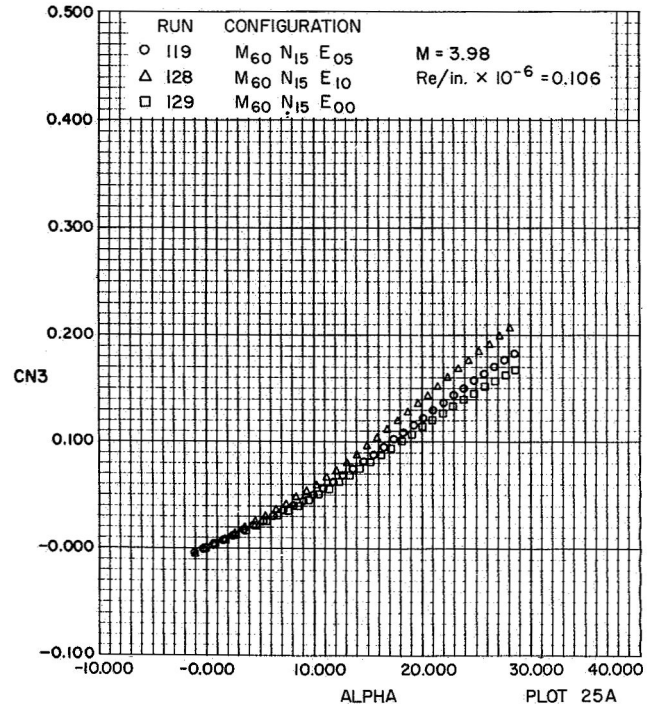

RUN CONFIGURATION
o 117 M60 N10 E10
Δ 131 M56 N10 E10
□ 139 M65 N10 E10
M=4.00
Re/in. × 10⁻⁶ =0.372
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 24C

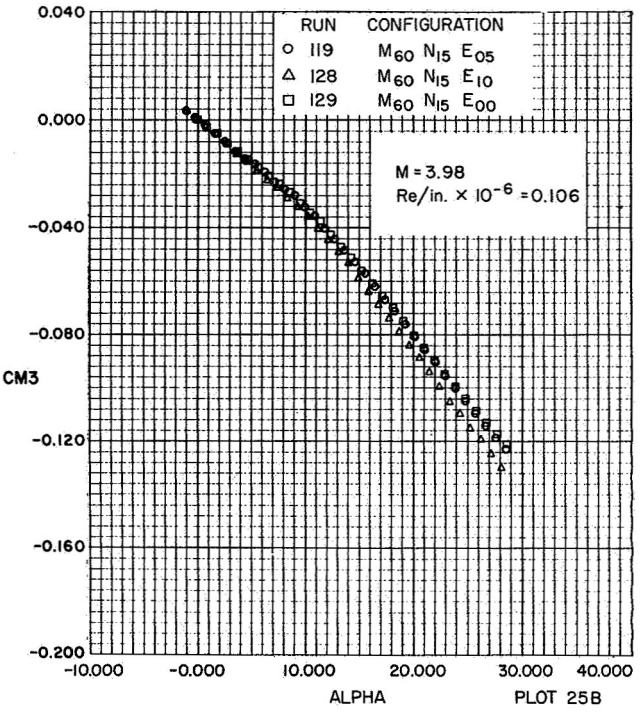

RUN CONFIGURATION
o 117 M60 N10 E10
Δ 131 M56 N10 E10
□ 139 M65 N10 E10
M=4.00
Re/in. × 10⁻⁶ =0.372
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 24E

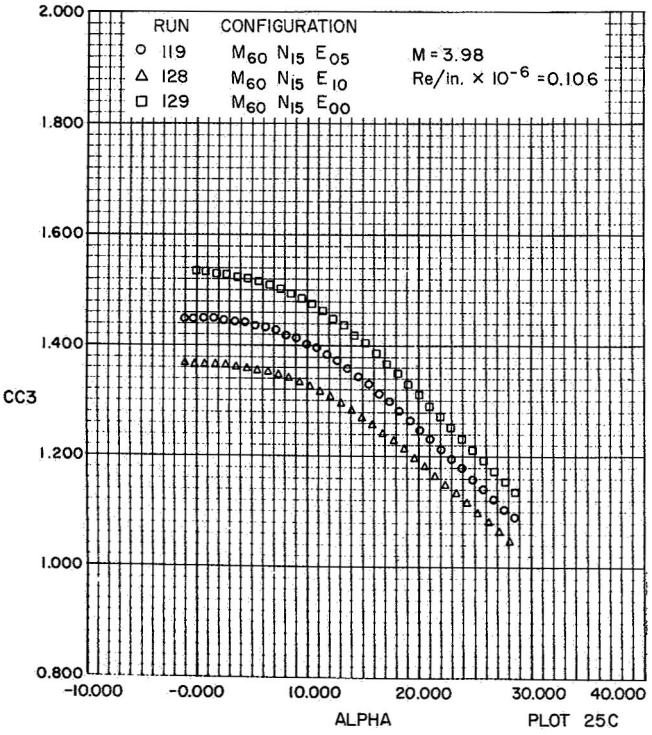

RUN CONFIGURATION
○ 117 M60 N10 E10
△ 131 M56 N10 E10
□ 139 M65 N10 E10
M=4.00
Re/in. × 10⁻⁶ =0.372
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 24F

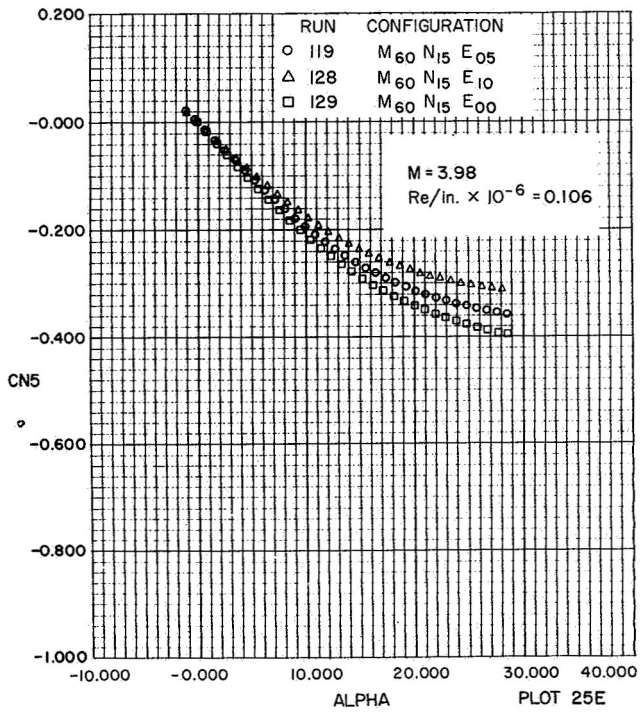

0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
M=4.00
Re/in. × 10⁻⁶ =0.372
RUN CONFIGURATION
○ 117 M60 N10 E10
△ 131 M56 N10 E10
□ 139 M65 N10 E10
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 24G

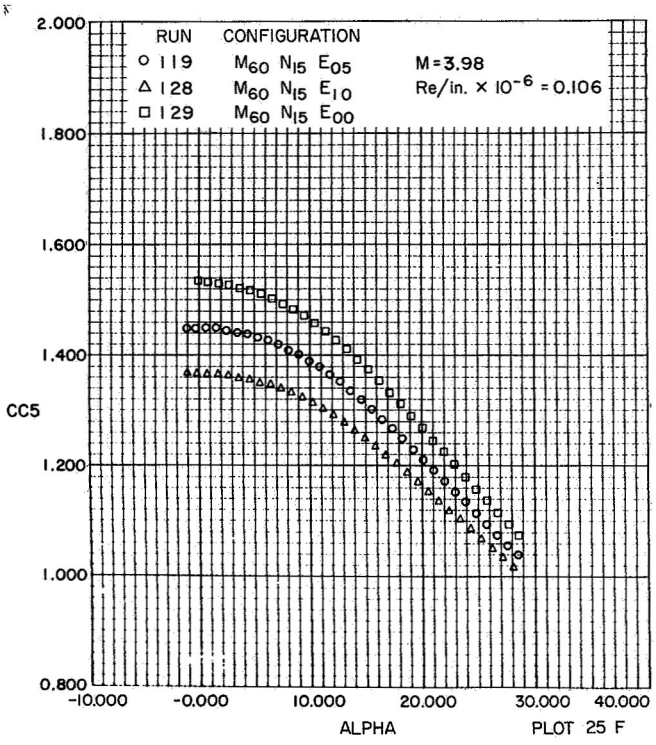

RUN CONFIGURATION
○ 117 M60 N10 E10
△ 131 M56 N10 E10
□ 139 M65 N10 E10
M=4.00
Re/in. × 10⁻⁶ =0.372
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100 -0.000 0.100 0.200 0.300 0.400
CN3
PLOT 24H

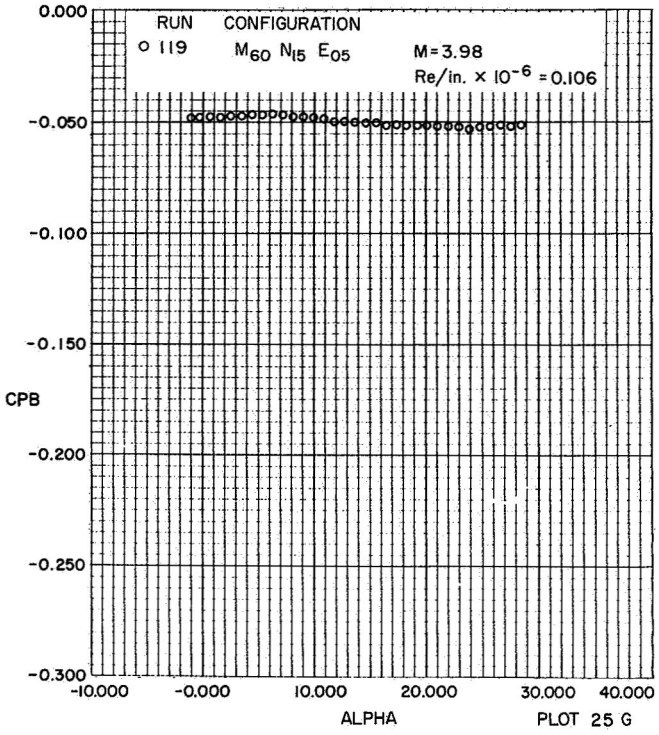

RUN CONFIGURATION
○ 119 M60 N15 E05
△ 128 M60 N15 E10
□ 129 M60 N15 E00
M = 3.98
Re/in. × 10⁻⁶ = 0.106
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 25A

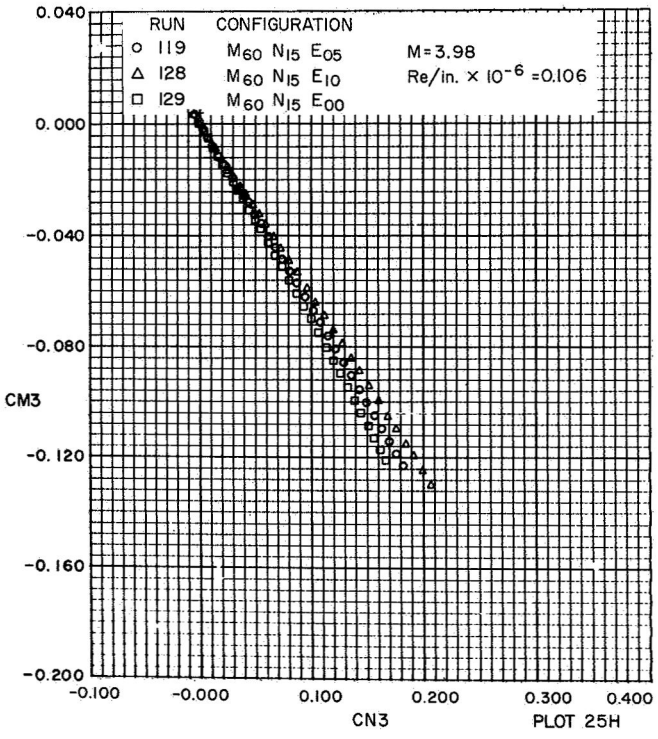

RUN CONFIGURATION
○ 119 M60 N15 E05
△ 128 M60 N15 E10
□ 129 M60 N15 E00
M = 3.98
Re/in. × 10⁻⁶ = 0.106
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 25B

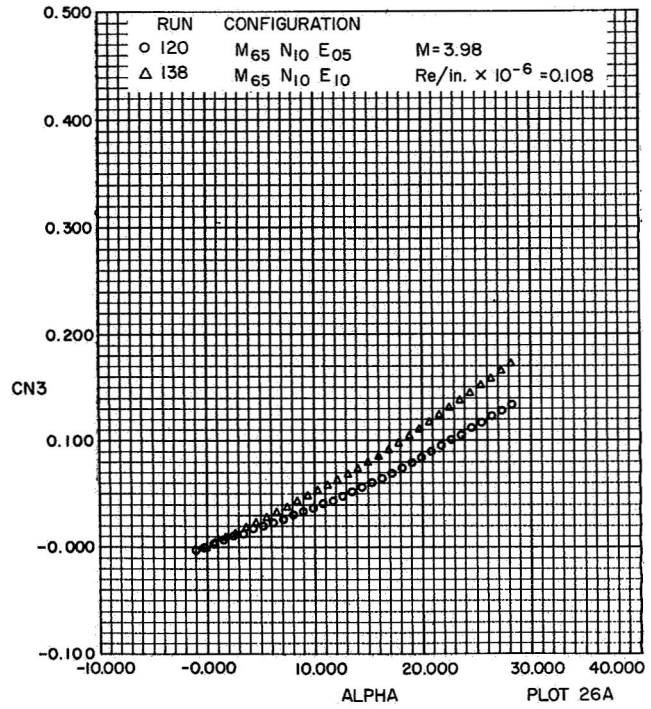

RUN CONFIGURATION
○ 119 M60 N15 E05
△ 128 M60 N15 E10
□ 129 M60 N15 E00
M = 3.98
Re/in. × 10⁻⁶ = 0.106
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 25C


RUN CONFIGURATION
○ 119 M60 N15 E05
△ 128 M60 N15 E10
□ 129 M60 N15 E00
M = 3.98
Re/in. × 10⁻⁶ = 0.106
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 25E

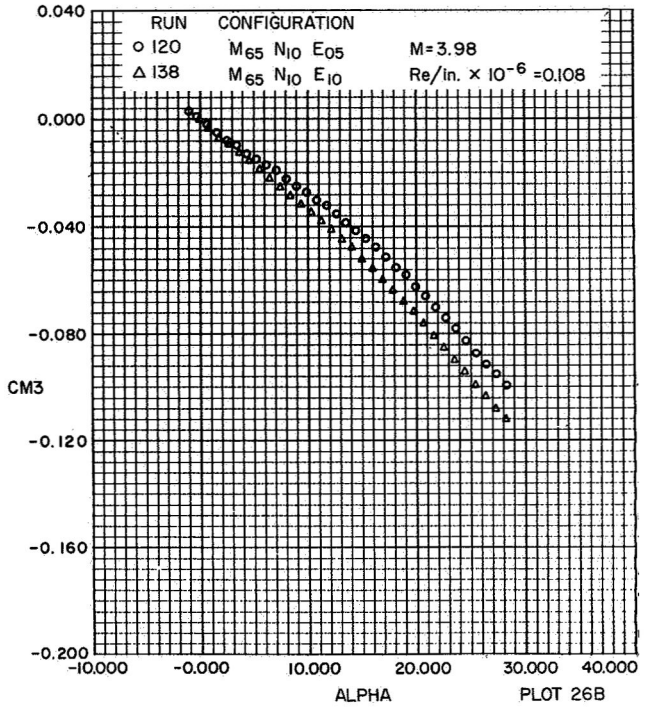

RUN CONFIGURATION
o 119 M60 N15 E05
Δ 128 M60 N15 E10
□ 129 M60 N15 E00
M=3.98
Re/in. × 10⁻⁶ = 0.106
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 25 F


RUN CONFIGURATION
o 119 M60 N15 E05
M=3.98
Re/in. × 10⁻⁶ = 0.106
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 25 G

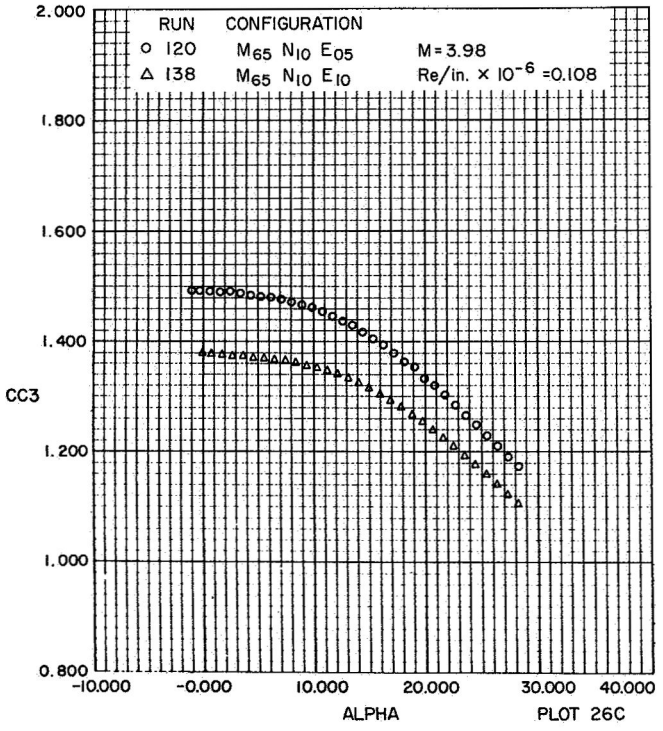

RUN CONFIGURATION
o 119 M60 N15 E05
Δ 128 M60 N15 E10
□ 129 M60 N15 E00
M=3.98
Re/in. × 10⁻⁶ = 0.106
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 25H



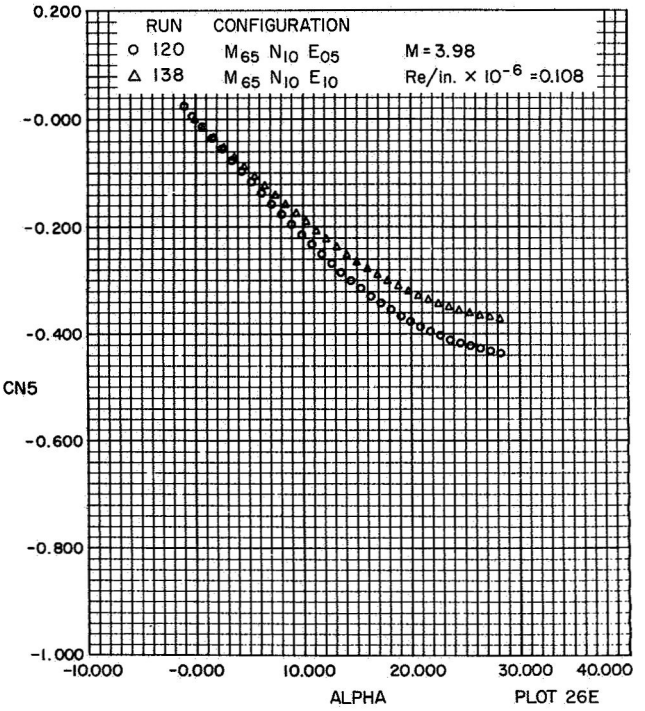
PLOT 26A



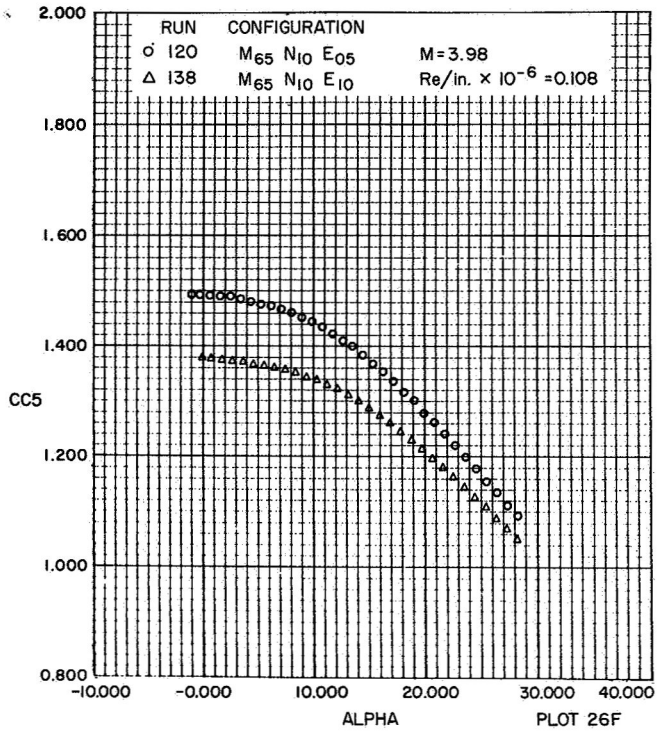
PLOT 26B

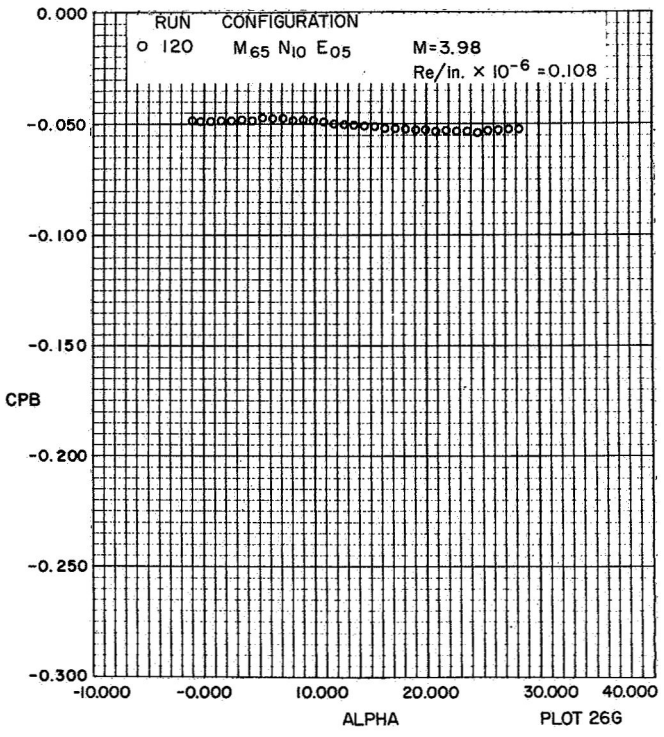


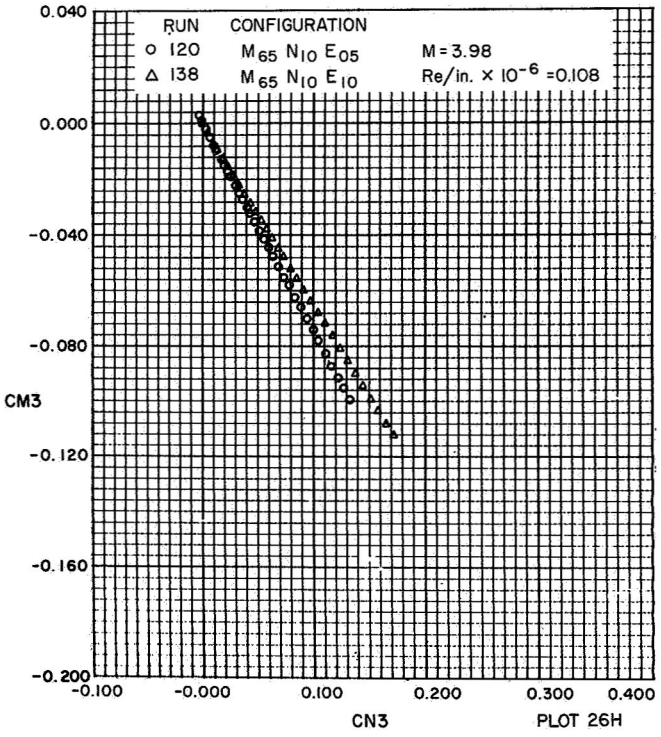
PLOT 26C

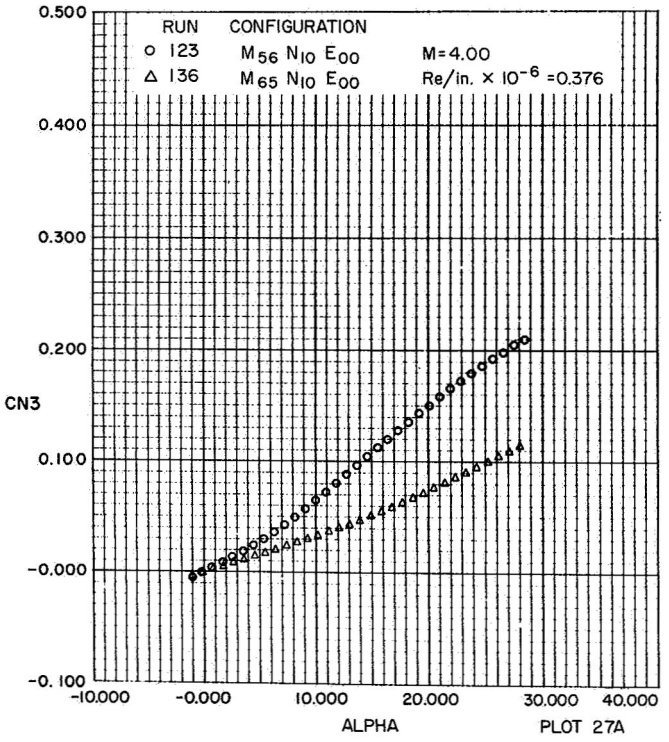


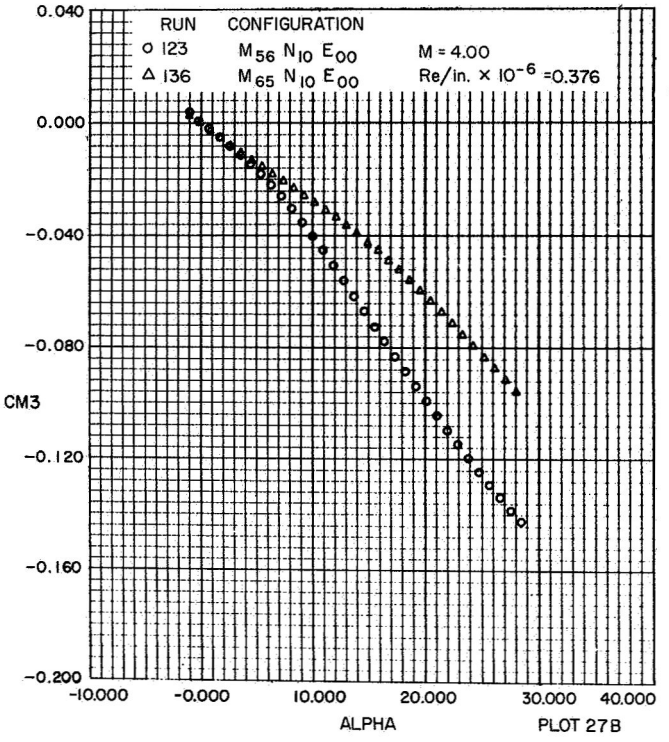
PLOT 26E

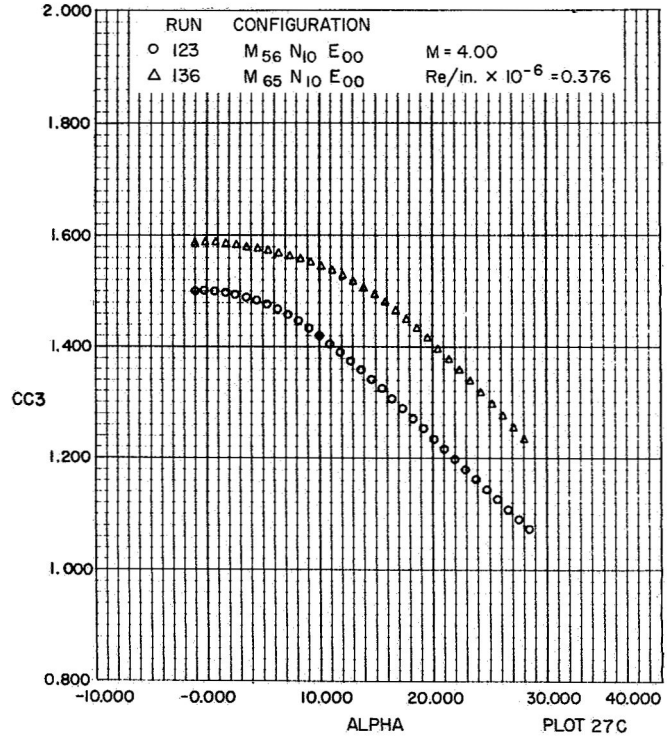

RUN CONFIGURATION
o 120 M65 N10 E05 M=3.98
Δ 138 M65 N10 E10 Re/in. × 10-6 =0.108
CC5
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 26F

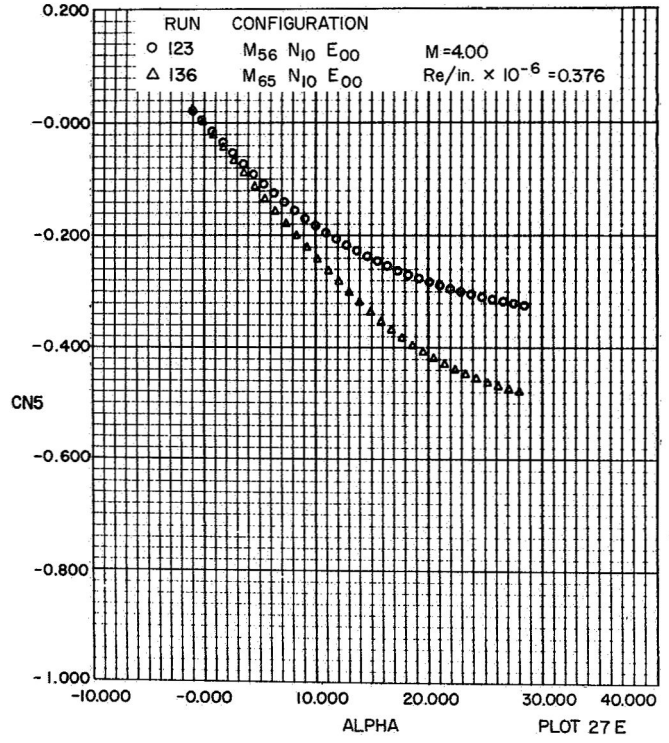

RUN CONFIGURATION
o 120 M65 N10 E05 M=3.98
Re/in. × 10-6 =0.108
CPB
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 26G

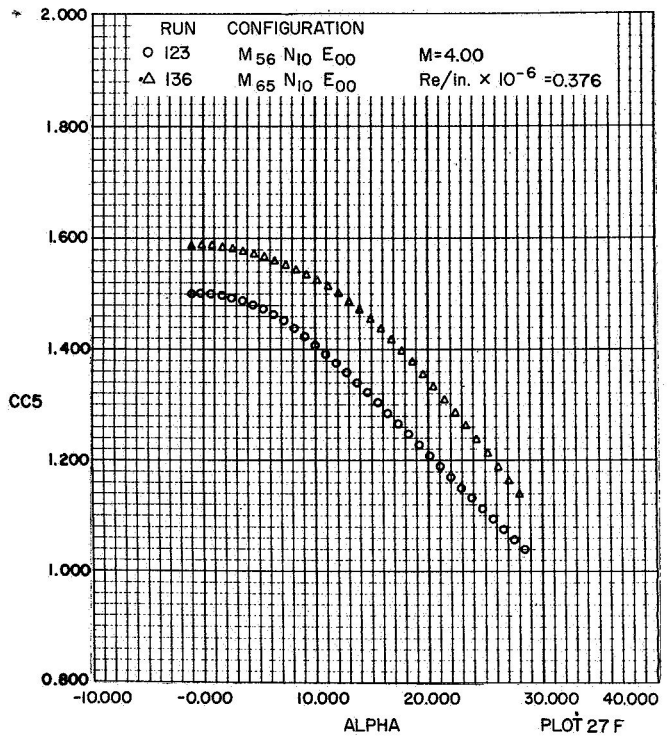

RUN CONFIGURATION
o 120 M65 N10 E05 M=3.98
Δ 138 M65 N10 E10 Re/in. × 10-6 =0.108
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 26H

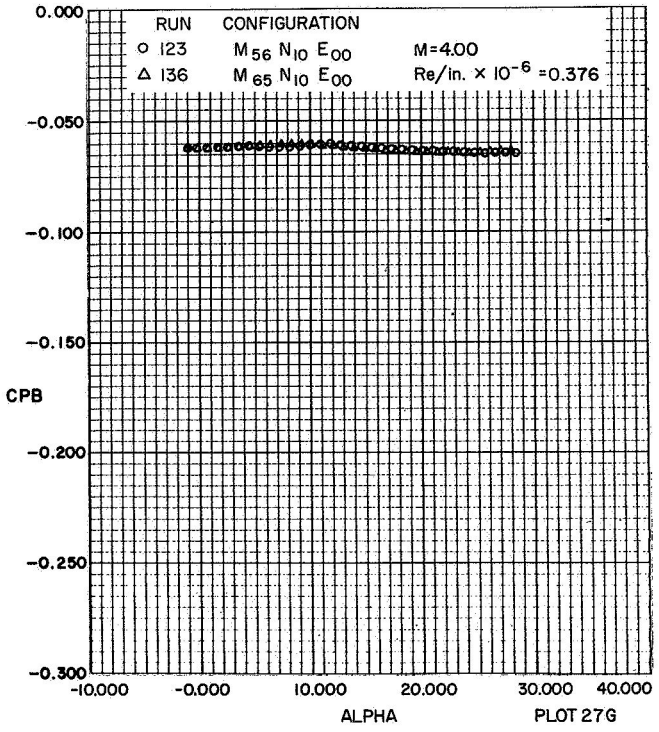

RUN CONFIGURATION
o 123 M56 N10 E00 M=4.00
Δ 136 M65 N10 E00 Re/in. × 10-6 =0.376
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
CN3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 27A

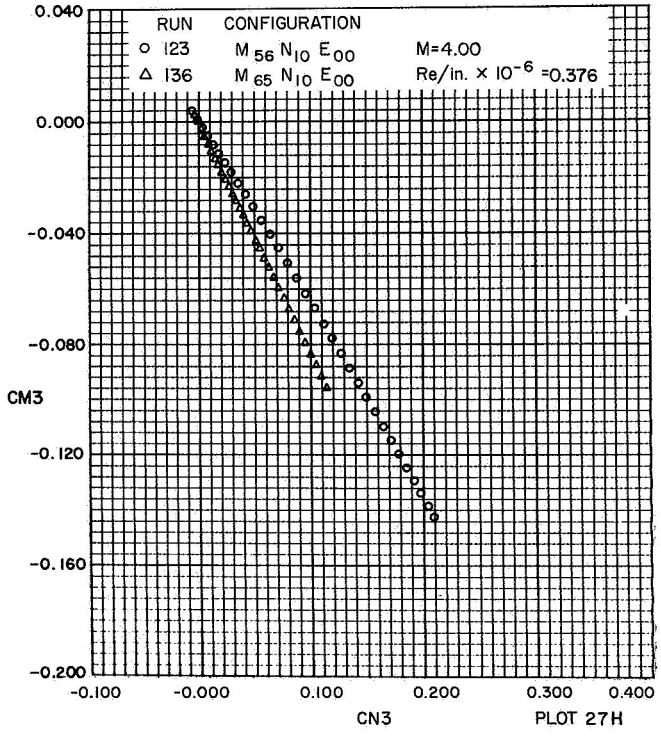

RUN CONFIGURATION
o 123 M56 N10 E00 M = 4.00
Δ 136 M65 N10 E00 Re/in. × 10-6 =0.376
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 27B

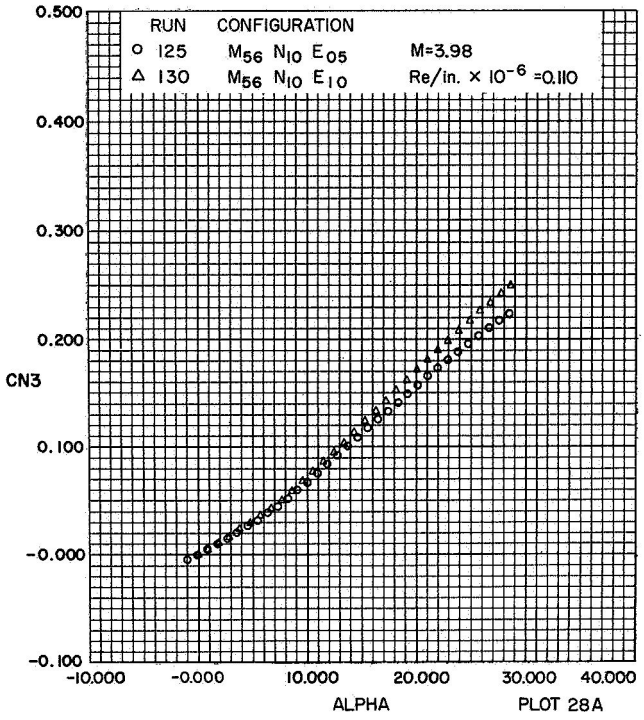

RUN CONFIGURATION
o 123 M56 N10 E00 M = 4.00
Δ 136 M65 N10 E00 Re/in. × 10-6 =0.376
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 27C

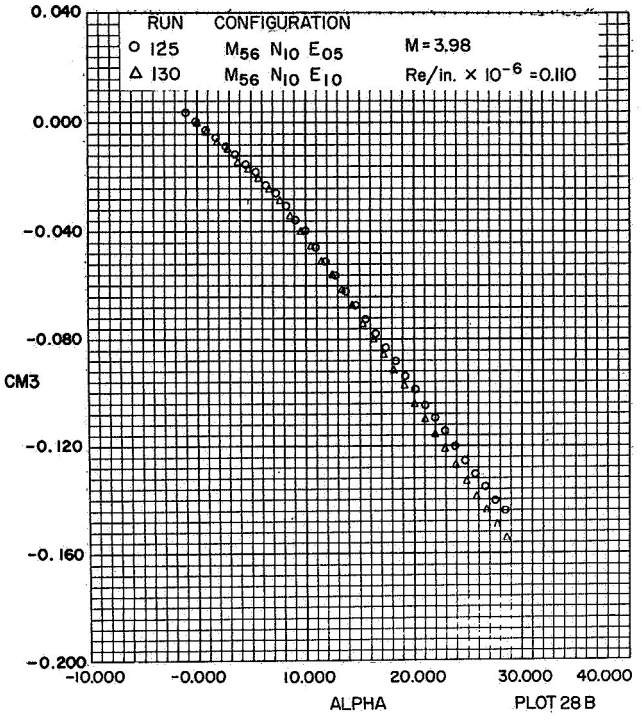

RUN CONFIGURATION
o 123 M56 N10 E00 M=4.00
Δ 136 M65 N10 E00 Re/in. × 10-6 =0.376
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
CN5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 27E

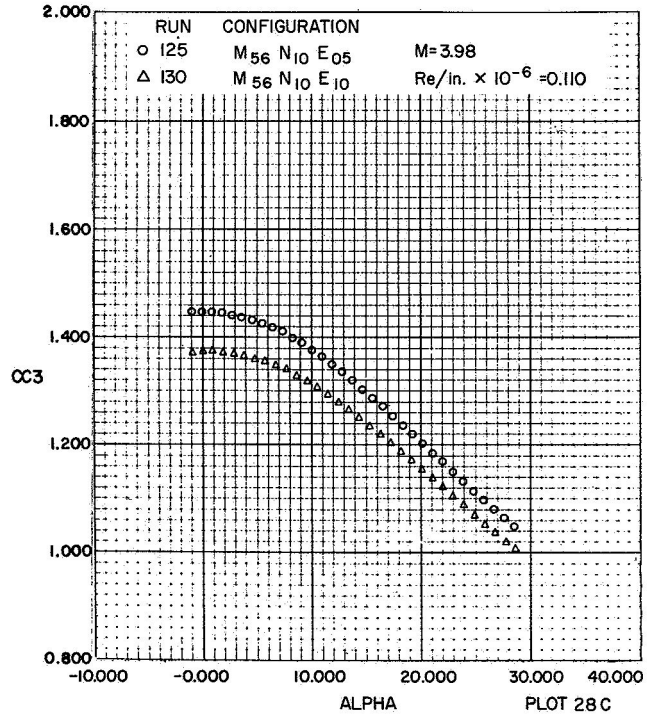

RUN CONFIGURATION
o 123 M56 N10 E00 M=4.00
Δ 136 M65 N10 E00 Re/in. × 10-6 =0.376
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 27F

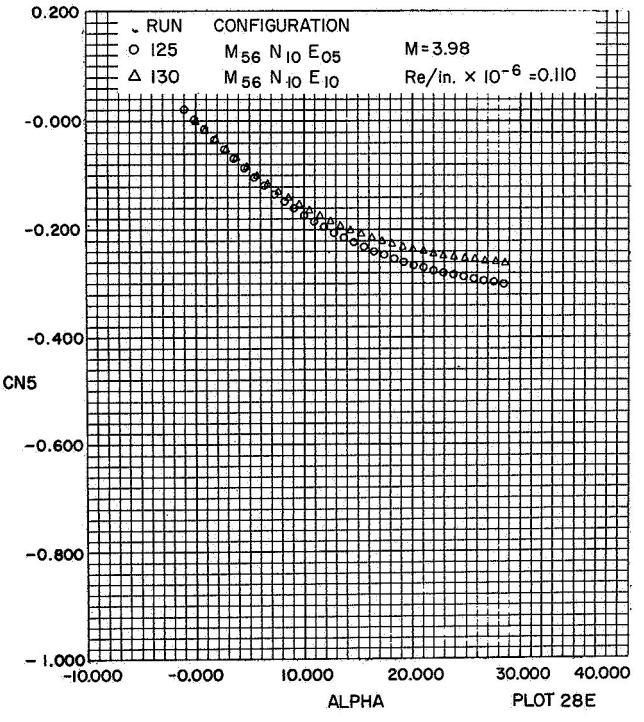

RUN CONFIGURATION
o 123 M56 N10 E00 M=4.00
Δ 136 M65 N10 E00 Re/in. × 10-6 =0.376
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 27G

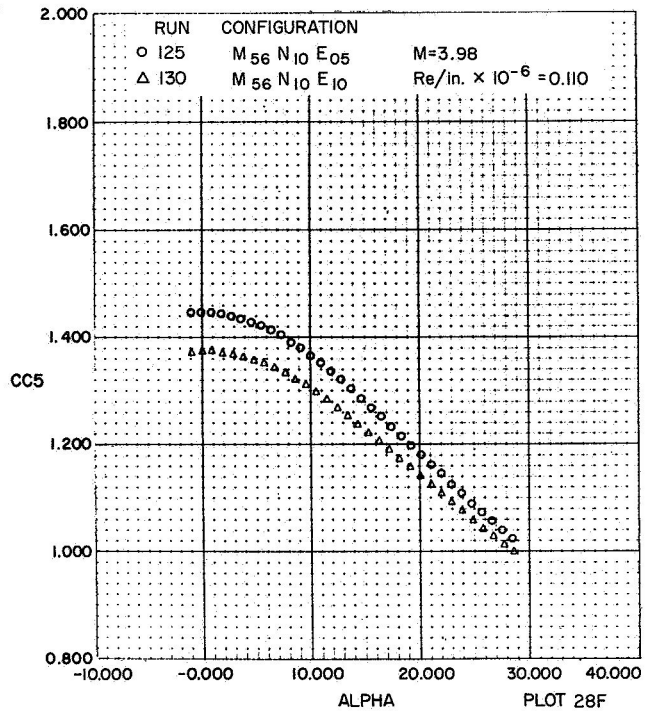

RUN CONFIGURATION
o 123 M56 N10 E00 M=4.00
Δ 136 M65 N10 E00 Re/in. × 10-6 =0.376
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100 -0.000 0.100 0.200 0.300 0.400
CN3
PLOT 27H

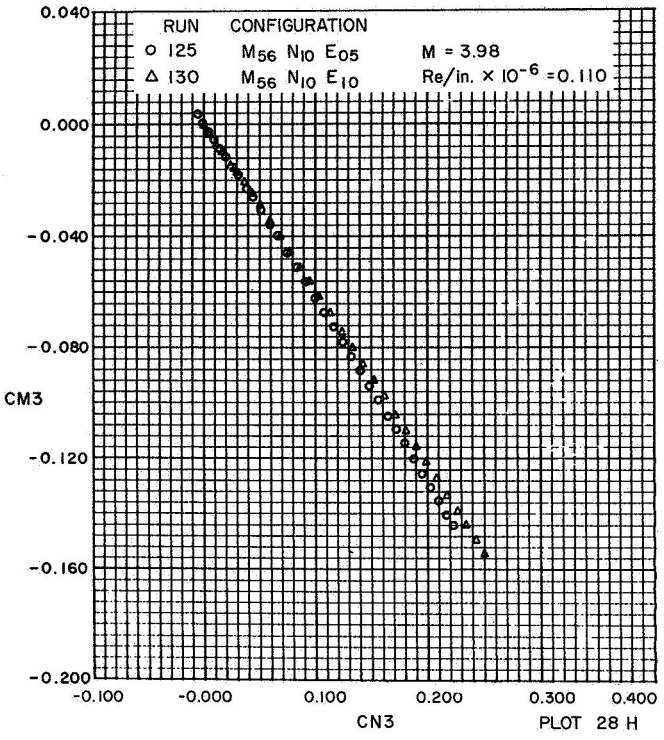

RUN CONFIGURATION
o 125 M56 N10 E05 M=3.98
Δ 130 M56 N10 E10 Re/in. × 10⁻⁶ =0.110
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
CN3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 28A

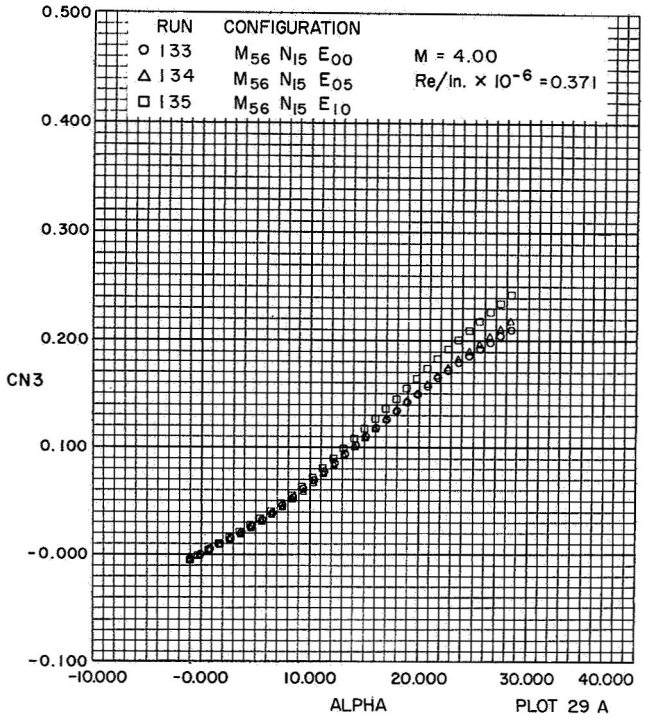

RUN CONFIGURATION
o 125 M56 N10 E05 M=3.98
Δ 130 M56 N10 E10 Re/in. × 10⁻⁶ =0.110
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 28B

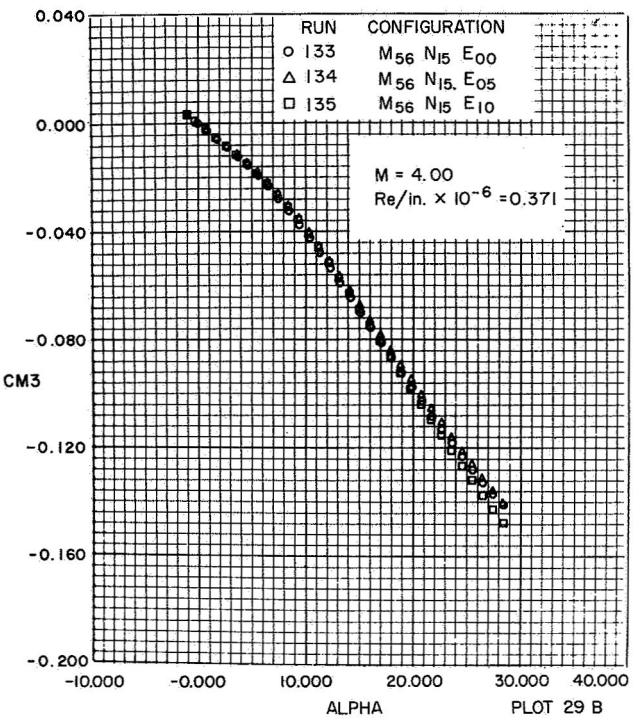

RUN CONFIGURATION
o 125 M56 N10 E05 M=3.98
Δ 130 M56 N10 E10 Re/in. × 10⁻⁶ =0.110
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 28C

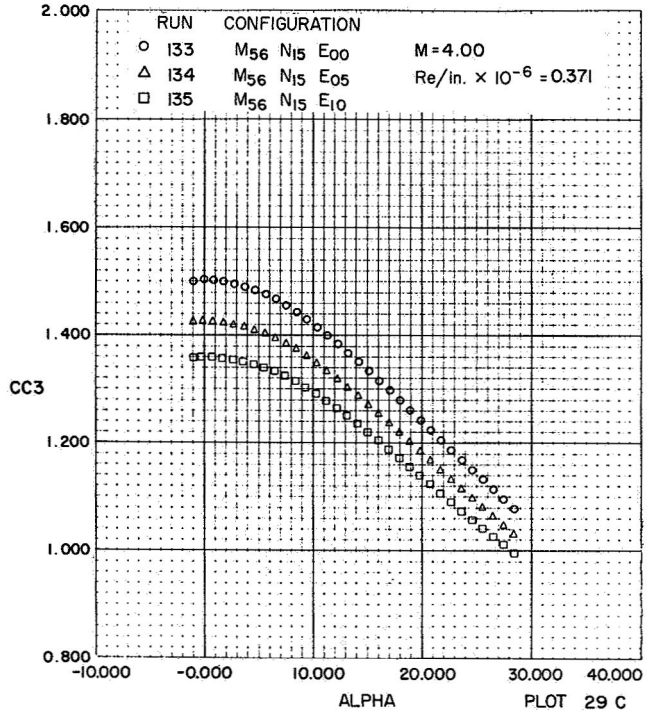

RUN CONFIGURATION
o 125 M56 N10 E05 M=3.98
Δ 130 M56 N10 E10 Re/in. × 10⁻⁶ =0.110
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
CN5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 28E

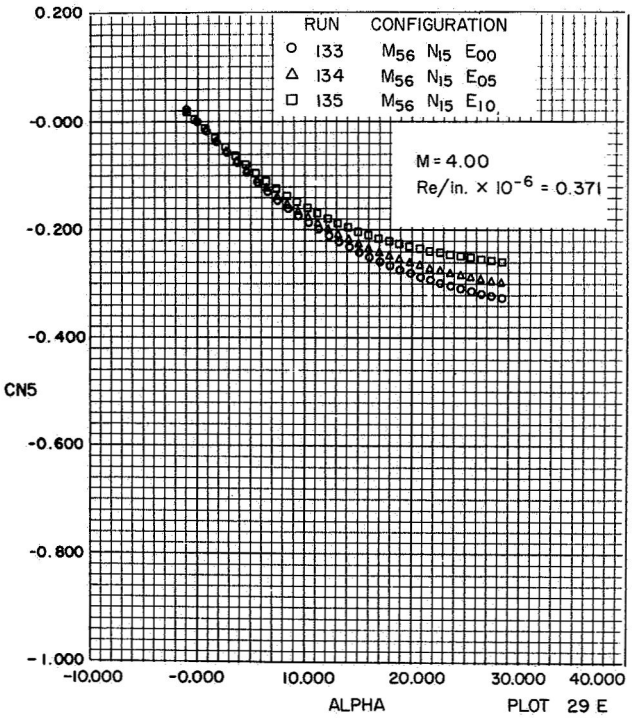

RUN CONFIGURATION
o 125 M56 N10 E05 M=3.98
Δ 130 M56 N10 E10 Re/in. × 10-6 =0.110
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 28F

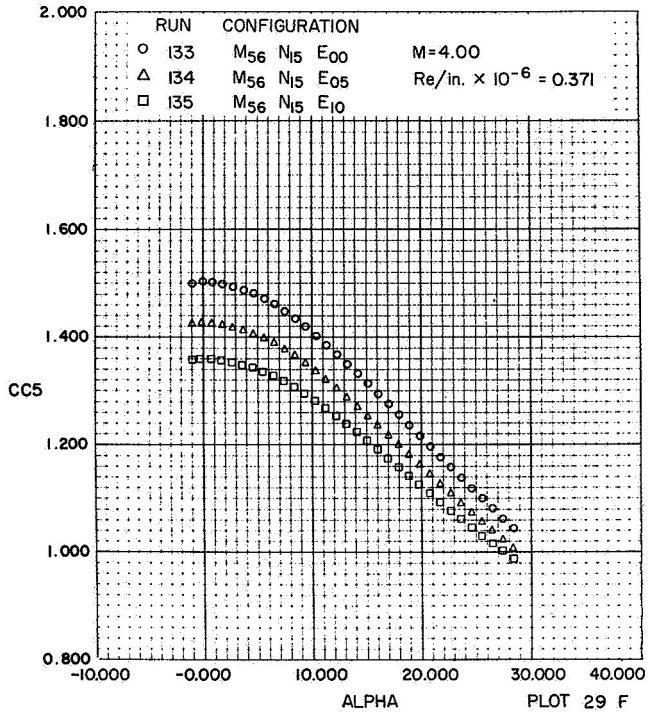

RUN CONFIGURATION
o 125 M56 N10 E05 M = 3.98
Δ 130 M56 N10 E10 Re/in. × 10-6 =0.110
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100 -0.000 0.100 0.200 0.300 0.400
CN3
PLOT 28 H

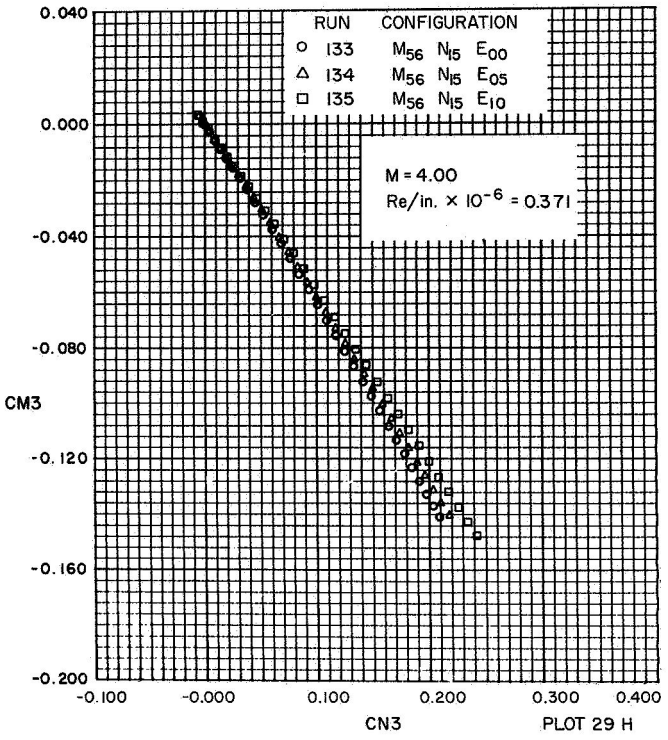

RUN CONFIGURATION
○ 133 M_{56} N_{15} E_{00}
△ 134 M_{56} N_{15} E_{05}
□ 135 M_{56} N_{15} E_{10}
M = 4.00
Re/in. × 10^{-6} = 0.371
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 29 A

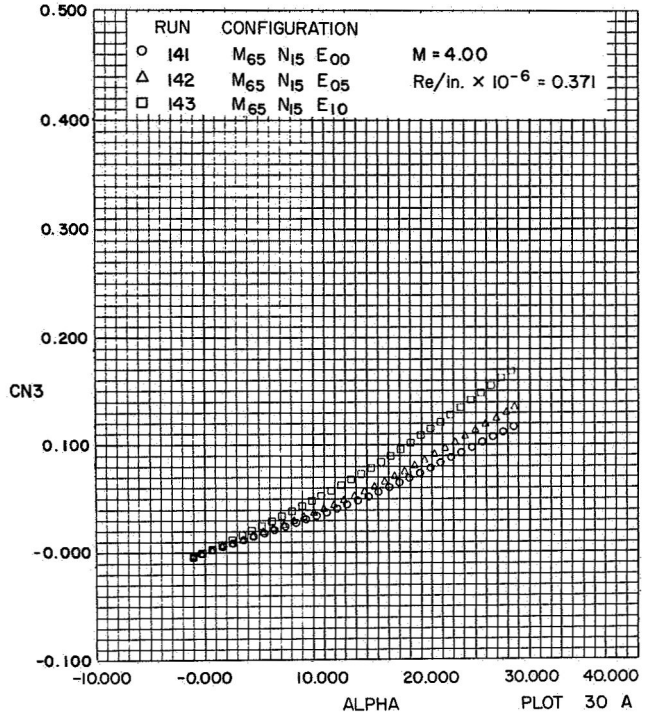

RUN CONFIGURATION
○ 133 M_{56} N_{15} E_{00}
△ 134 M_{56} N_{15} E_{05}
□ 135 M_{56} N_{15} E_{10}
M = 4.00
Re/in. × 10^{-6} = 0.371
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 29 B

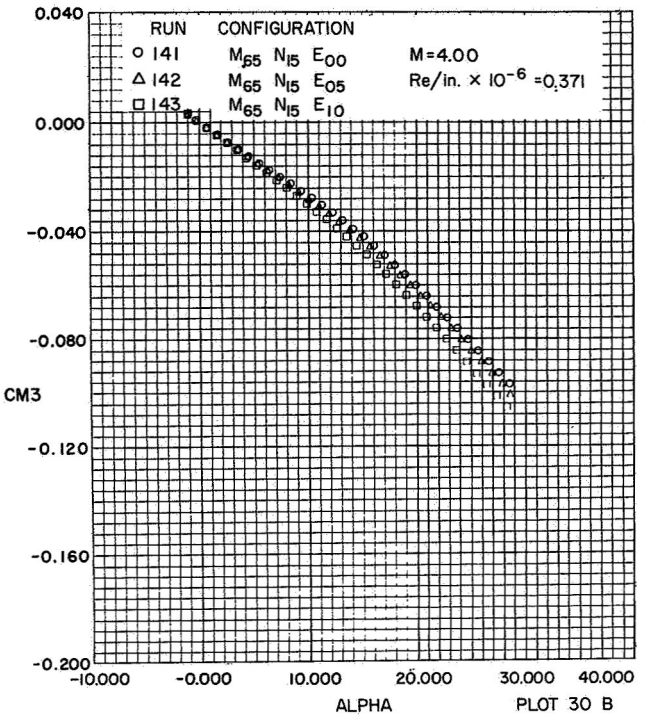

RUN CONFIGURATION
○ 133 M_{56} N_{15} E_{00}
△ 134 M_{56} N_{15} E_{05}
□ 135 M_{56} N_{15} E_{10}
M=4.00
Re/in. × 10^{-6} = 0.371
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 29 C

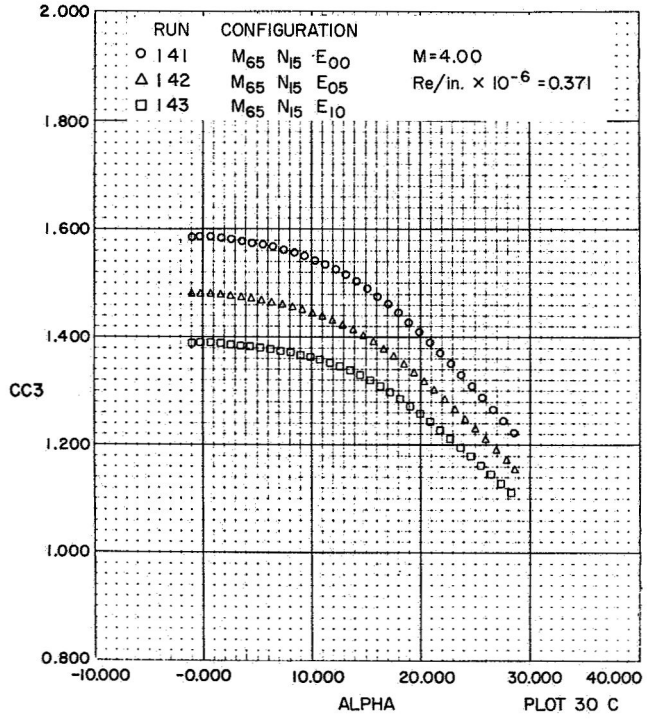

RUN CONFIGURATION
○ 133 M_{56} N_{15} E_{00}
△ 134 M_{56} N_{15} E_{05}
□ 135 M_{56} N_{15} E_{10}
M = 4.00
Re/in. × 10^{-6} = 0.371
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 29 E

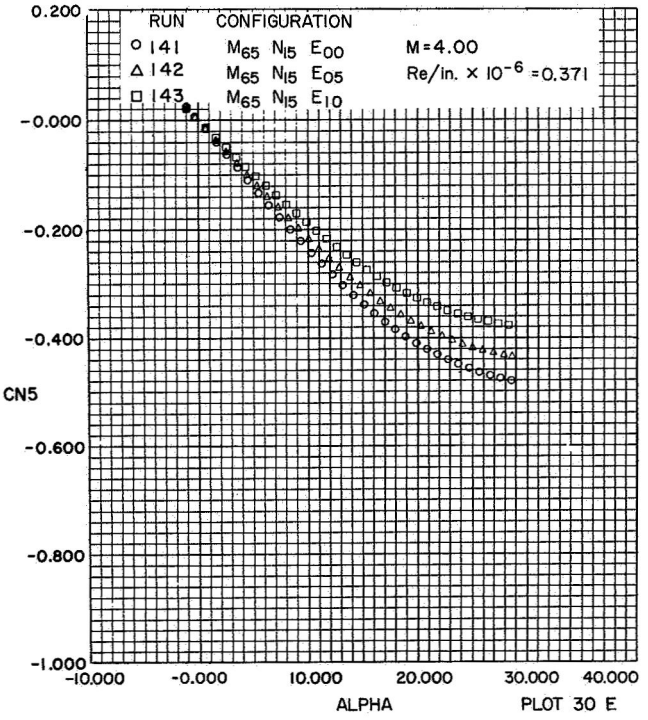

RUN CONFIGURATION
133 M56 N15 E00
134 M56 N15 E05
135 M56 N15 E10
M=4.00
Re/in. × 10⁻⁶ = 0.371
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 29 F

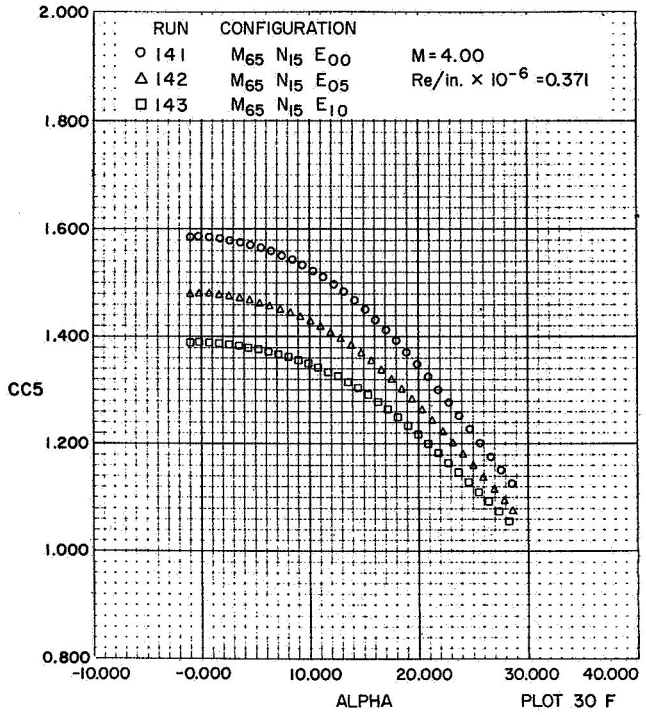

RUN CONFIGURATION
133 M56 N15 E00
134 M56 N15 E05
135 M56 N15 E10
M = 4.00
Re/in. × 10⁻⁶ = 0.371
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 29 H

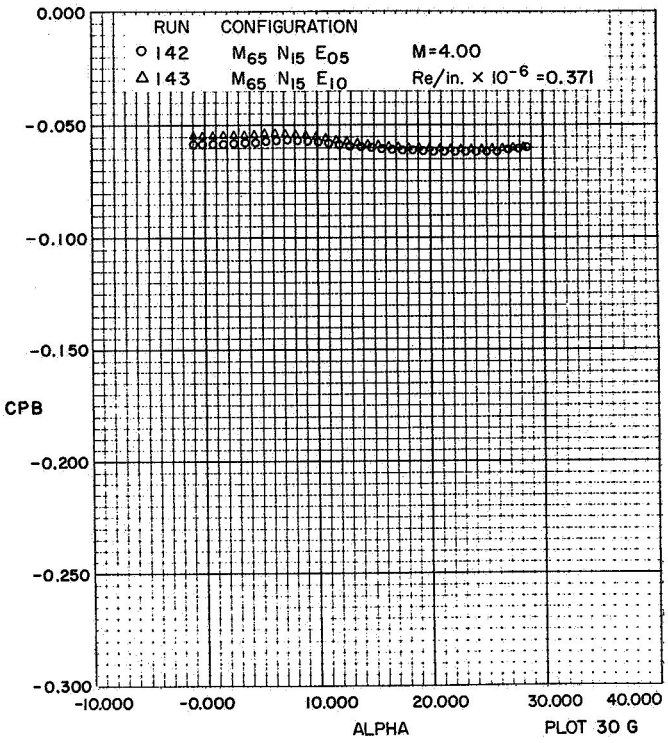

RUN CONFIGURATION
o 141 M65 N15 E00
Δ 142 M65 N15 E05
□ 143 M65 N15 E10
M = 4.00
Re/in. × 10⁻⁶ = 0.371
CN3
0.500
0.400
0.300
0.200
0.100
-0.000
-0.100
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 30 A

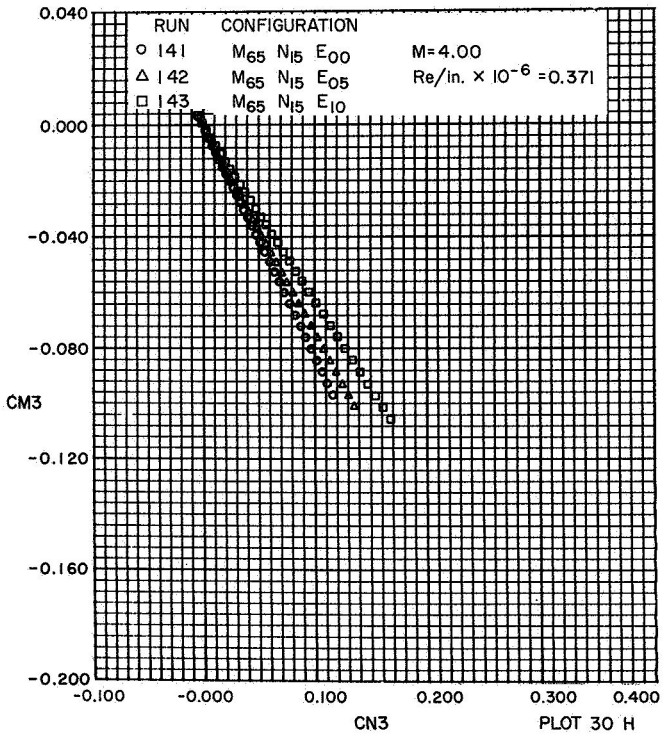

RUN CONFIGURATION
o 141 M65 N15 E00
Δ 142 M65 N15 E05
□ 143 M65 N15 E10
M=4.00
Re/in. × 10⁻⁶ =0.371
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 30 B

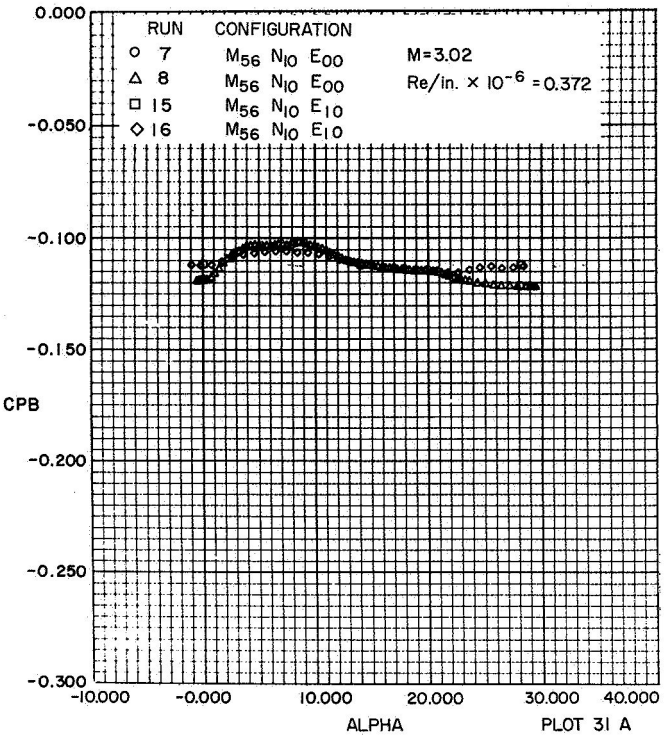

RUN CONFIGURATION
o 141 M65 N15 E00
Δ 142 M65 N15 E05
□ 143 M65 N15 E10
M=4.00
Re/in. × 10⁻⁶ =0.371
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 30 C

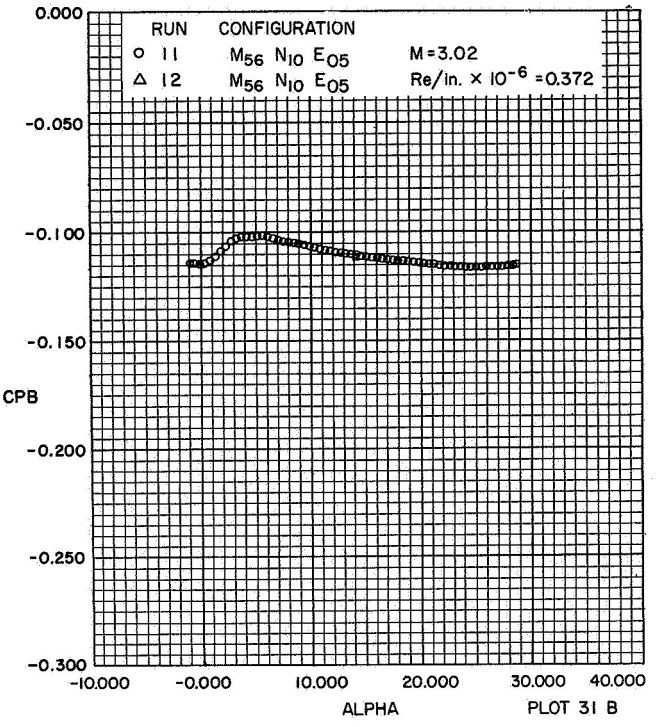

RUN CONFIGURATION
o 141 M65 N15 E00
Δ 142 M65 N15 E05
□ 143 M65 N15 E10
M=4.00
Re/in. × 10⁻⁶ =0.371
CN5
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 30 E

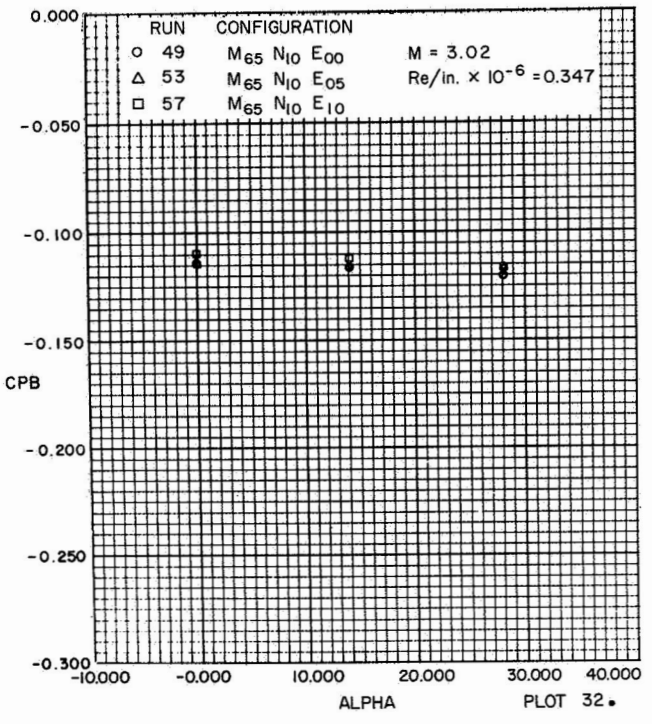

RUN CONFIGURATION
o 141 M65 N15 E00 M=4.00
Δ 142 M65 N15 E05 Re/in. × 10-6 =0.371
□ 143 M65 N15 E10
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 30 F

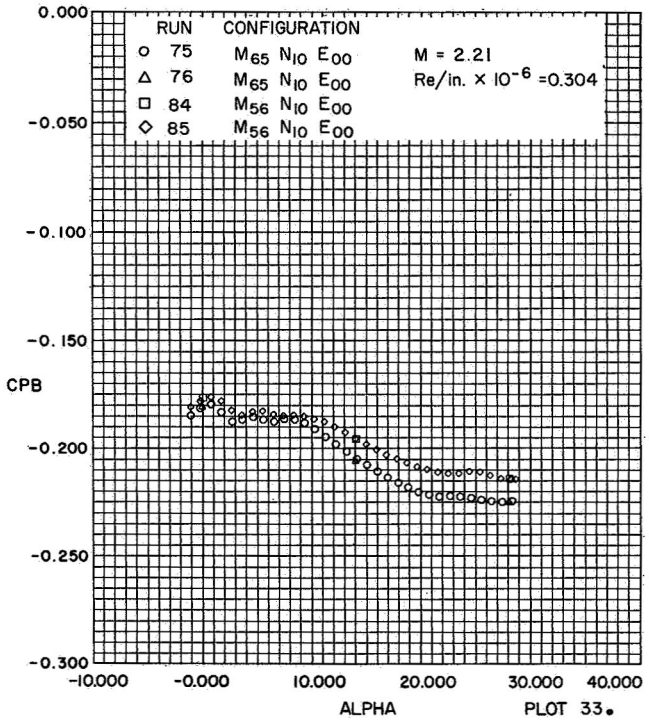

RUN CONFIGURATION
o 142 M65 N15 E05 M=4.00
Δ 143 M65 N15 E10 Re/in. × 10-6 =0.371
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 30 G

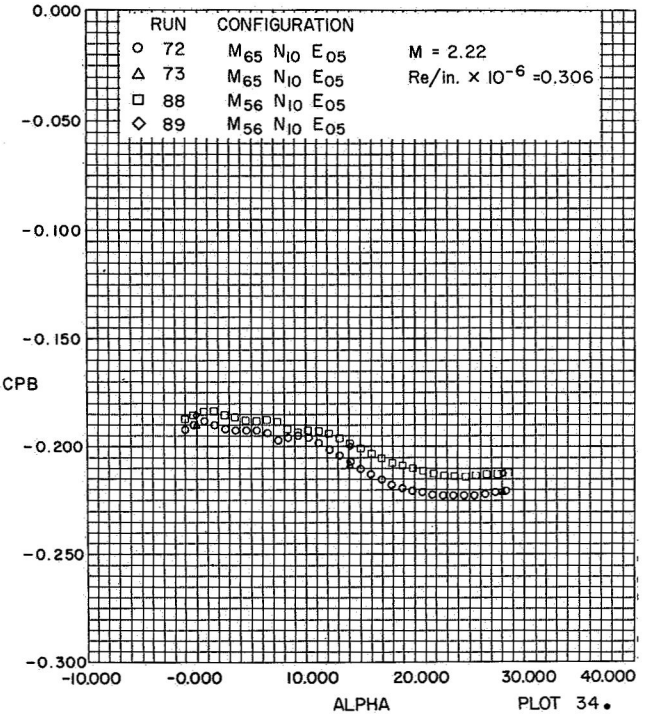

RUN CONFIGURATION
o 141 M65 N15 E00 M=4.00
Δ 142 M65 N15 E05 Re/in. × 10-6 =0.371
□ 143 M65 N15 E10
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100 -0.000 0.100 0.200 0.300 0.400
CN3
PLOT 30 H

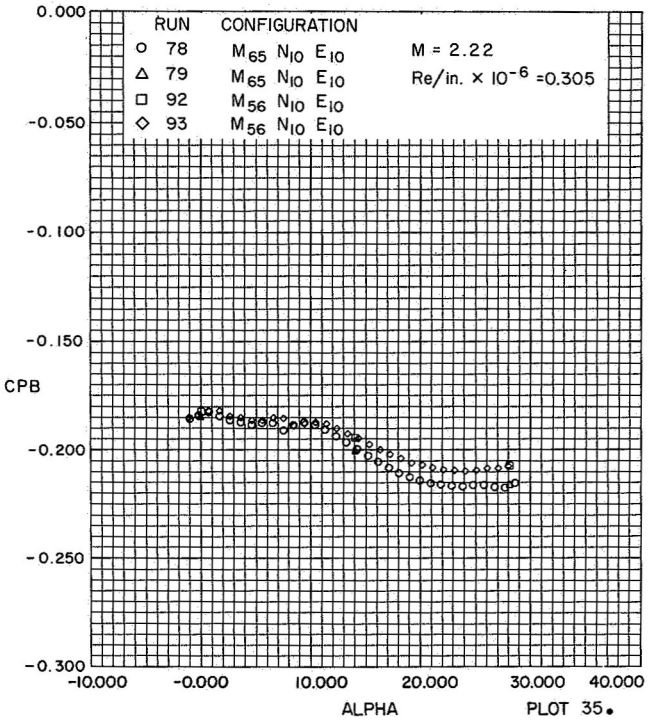

RUN CONFIGURATION
○ 7 M_{56} N_{10} E_{00} M=3.02
△ 8 M_{56} N_{10} E_{00} Re/in. × 10^{-6} =0.372
□ 15 M_{56} N_{10} E_{10}
◇ 16 M_{56} N_{10} E_{10}
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 31 A

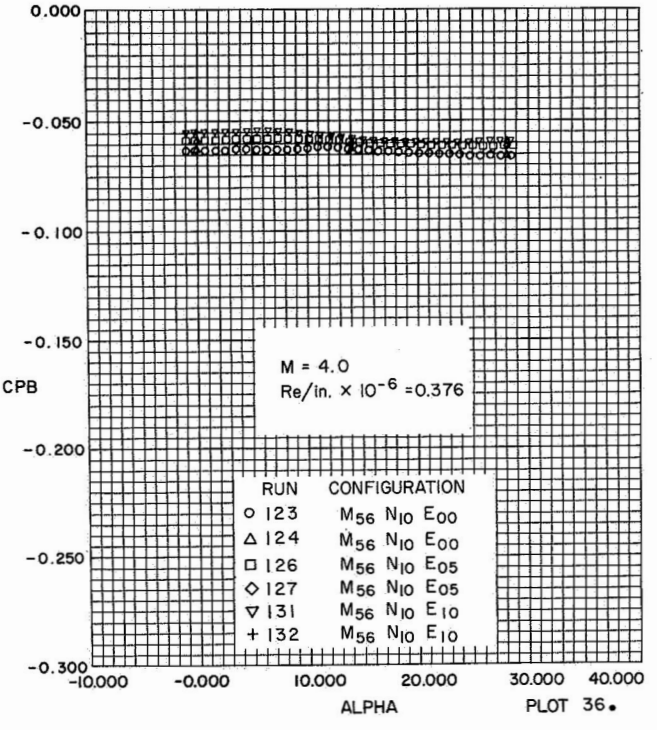

RUN CONFIGURATION
○ 11 M_{56} N_{10} E_{05} M=3.02
△ 12 M_{56} N_{10} E_{05} Re/in. × 10^{-6} =0.372
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 31 B

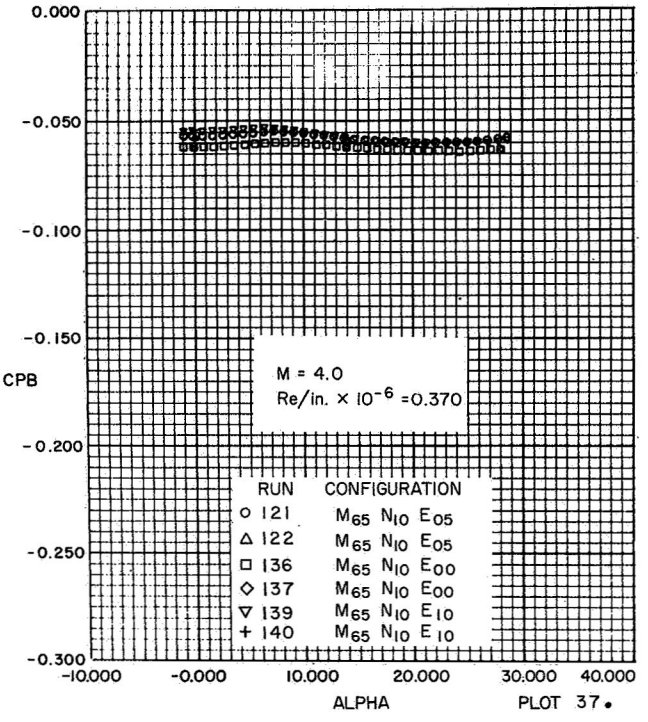

RUN
CONFIGURATION
o 49 M65 N10 E00
Δ 53 M65 N10 E05
□ 57 M65 N10 E10
M = 3.02
Re/in. × 10-6 =0.347
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 32.


RUN
CONFIGURATION
o 75 M65 N10 E00
Δ 76 M65 N10 E00
□ 84 M56 N10 E00
◇ 85 M56 N10 E00
M = 2.21
Re/in. × 10-6 =0.304
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 33.

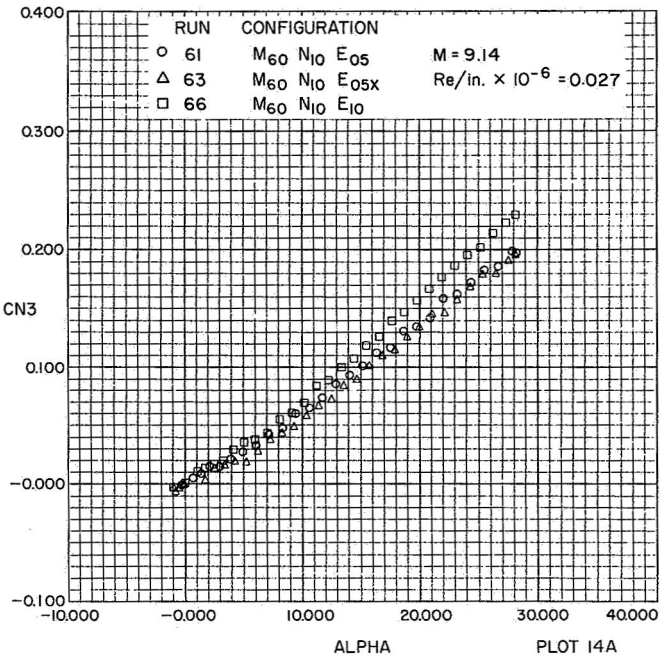

RUN CONFIGURATION
○ 72 M65 N10 E05 M = 2.22
△ 73 M65 N10 E05 Re/in. × 10⁻⁶ =0.306
□ 88 M56 N10 E05
◇ 89 M56 N10 E05
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 34.


RUN
CONFIGURATION
○ 78 M65 N10 E10
△ 79 M65 N10 E10
□ 92 M56 N10 E10
◇ 93 M56 N10 E10
M = 2.22
Re/in. × 10-6 =0.305
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 35.

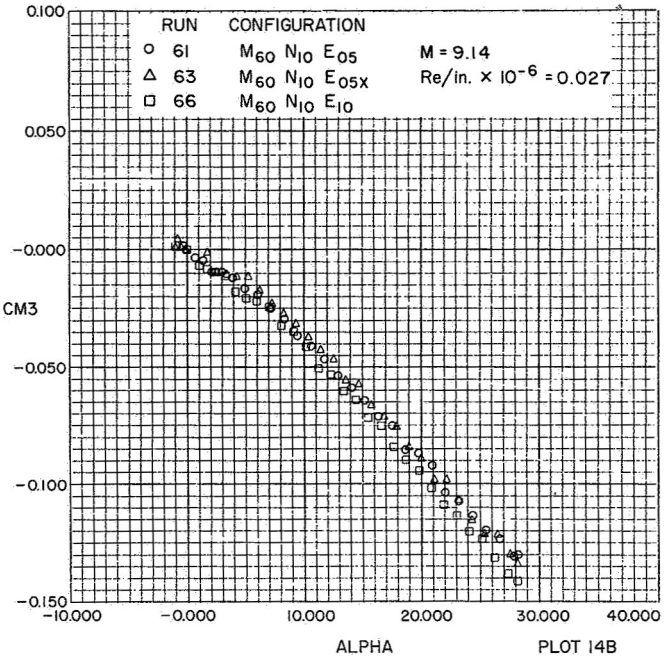

0.000
-0.050
-0.100
-0.150
CPB
-0.200
-0.250
-0.300
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 36.
M = 4.0
Re/in. × 10⁻⁶ =0.376
RUN CONFIGURATION
o 123 M56 N10 E00
Δ 124 M56 N10 E00
□ 126 M56 N10 E05
◇ 127 M56 N10 E05
▽ 131 M56 N10 E10
+ 132 M56 N10 E10


0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
M = 4.0
Re/in. × 10⁻⁶ =0.370
RUN CONFIGURATION
o 121 M65 N10 E05
△ 122 M65 N10 E05
□ 136 M65 N10 E00
◇ 137 M65 N10 E00
▽ 139 M65 N10 E10
+ 140 M65 N10 E10
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 37.

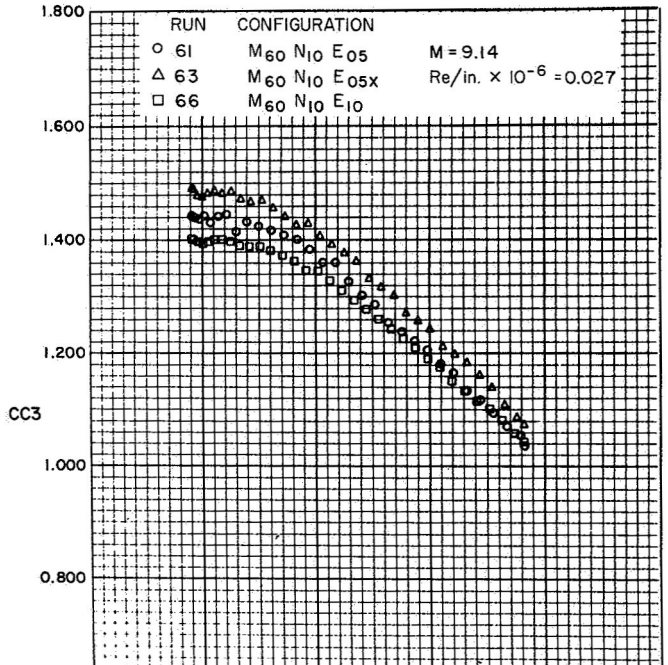
Test 21-192



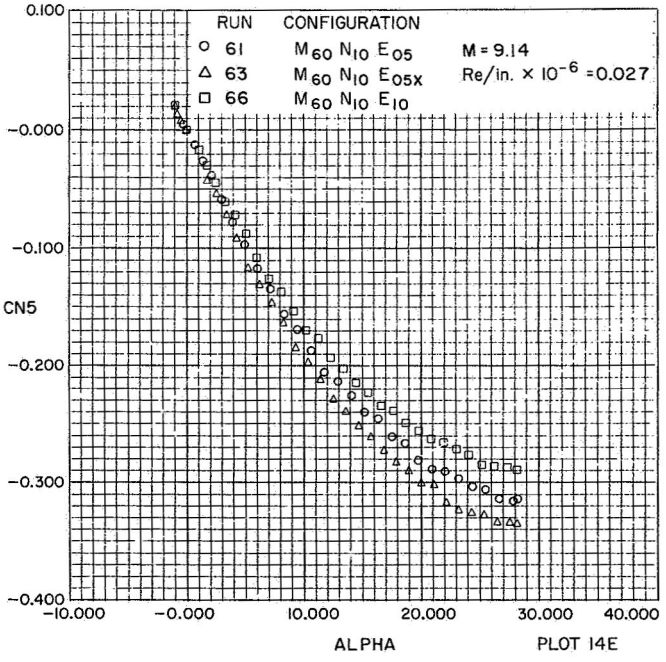
PLOT 14A



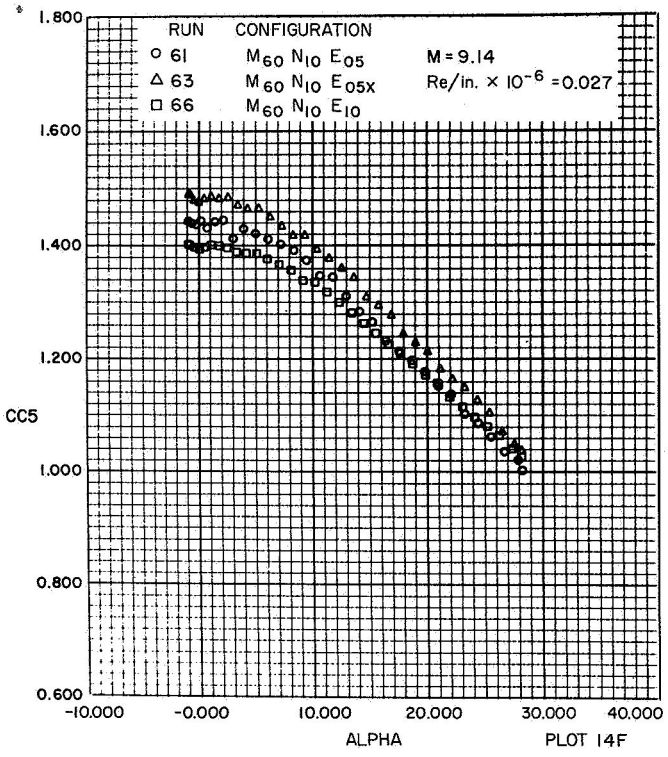
PLOT 14B

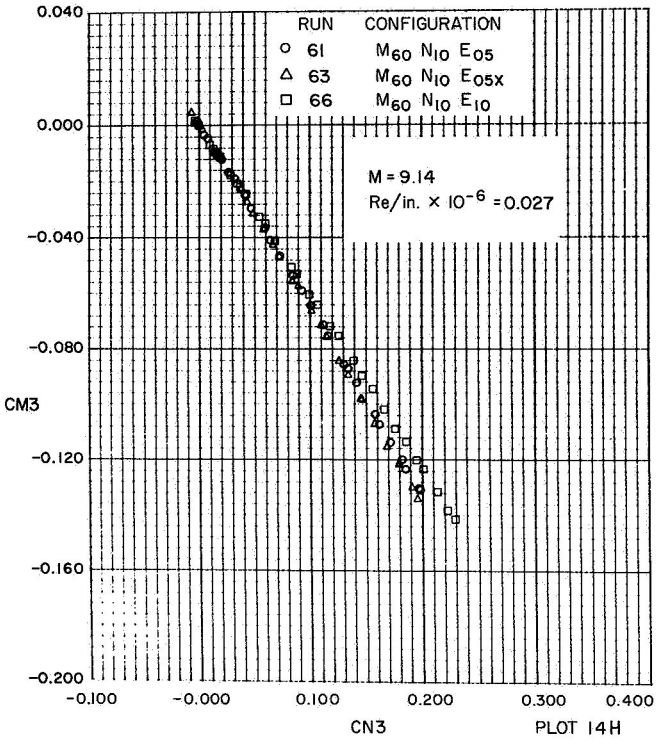


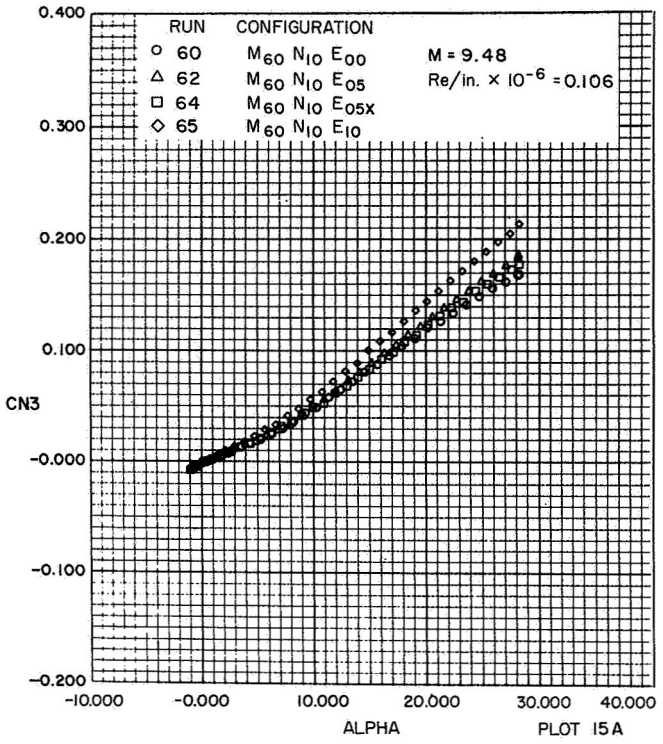
PLOT 14C

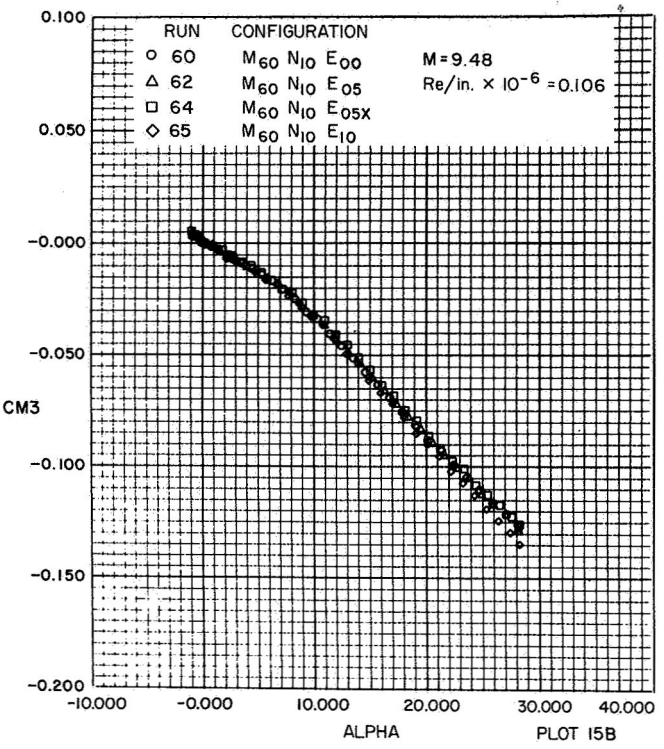


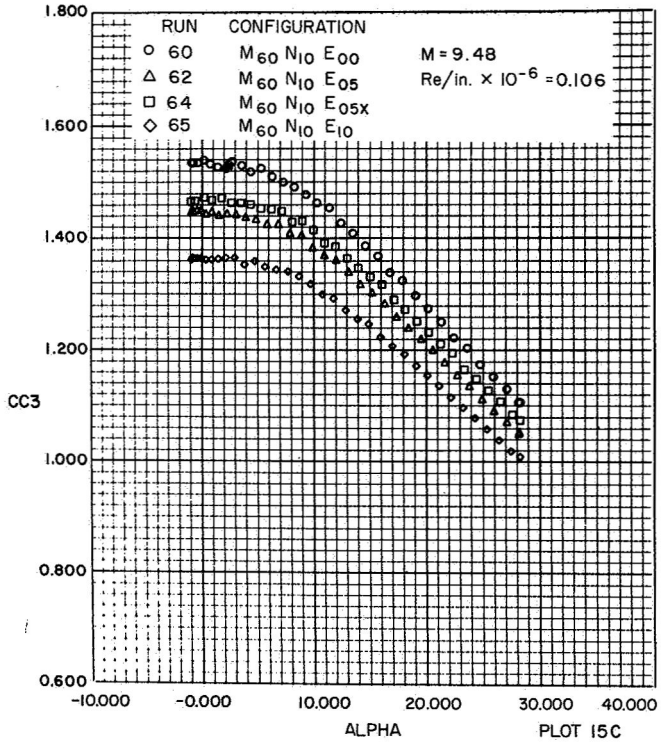
PLOT 14E

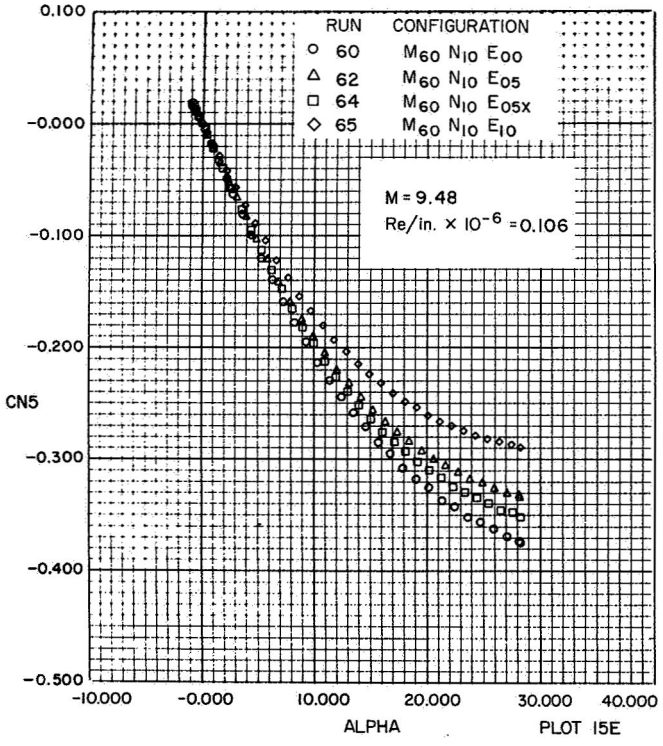

RUN CONFIGURATION
○ 61 M_{60} N_{10} E_{05}
△ 63 M_{60} N_{10} E_{05x}
□ 66 M_{60} N_{10} E_{10}
M = 9.14
Re/in. × 10^{-6} = 0.027
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14F

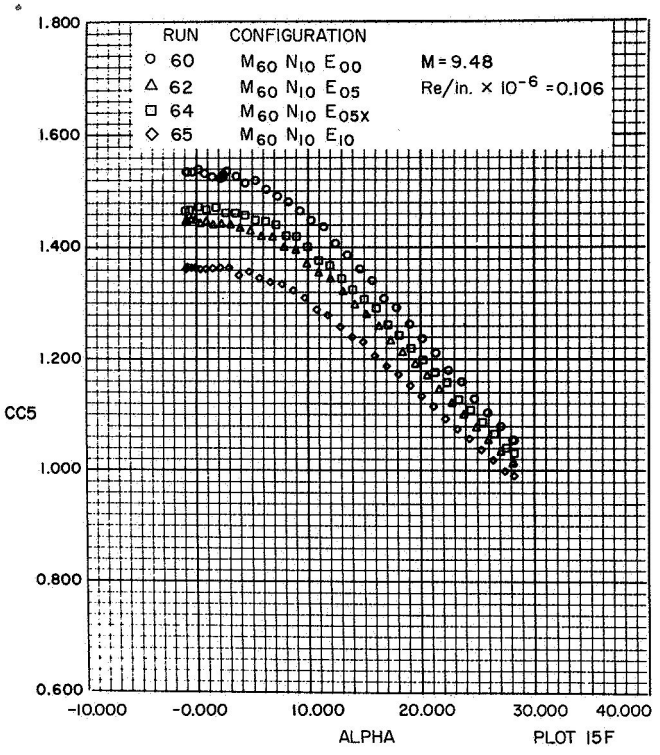

RUN CONFIGURATION
○ 61 M_{60} N_{10} E_{05}
△ 63 M_{60} N_{10} E_{05x}
□ 66 M_{60} N_{10} E_{10}
M = 9.14
Re/in. × 10^{-6} = 0.027
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 14H

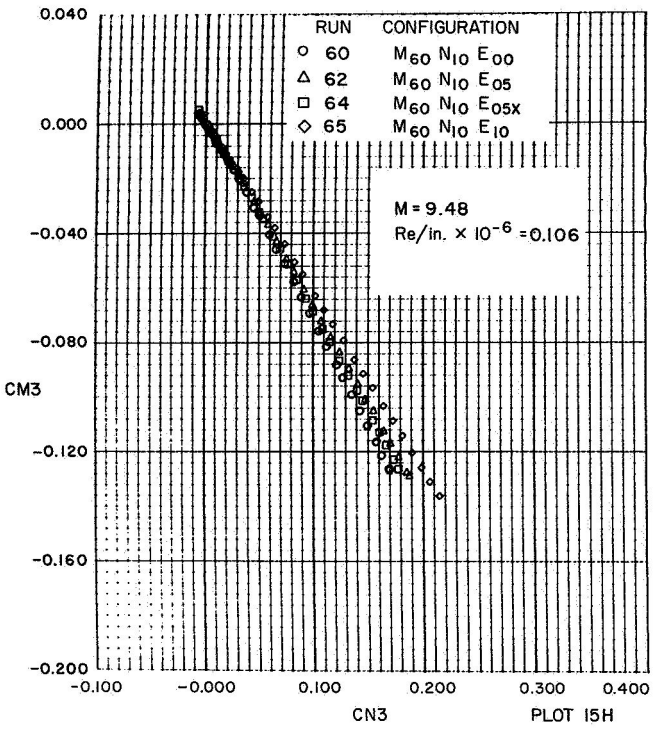

RUN CONFIGURATION
○ 60 $M_{60}\ N_{10}\ E_{00}$
△ 62 $M_{60}\ N_{10}\ E_{05}$
□ 64 $M_{60}\ N_{10}\ E_{05X}$
◇ 65 $M_{60}\ N_{10}\ E_{10}$
M = 9.48
Re/in. × 10^{-6} = 0.106
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15A

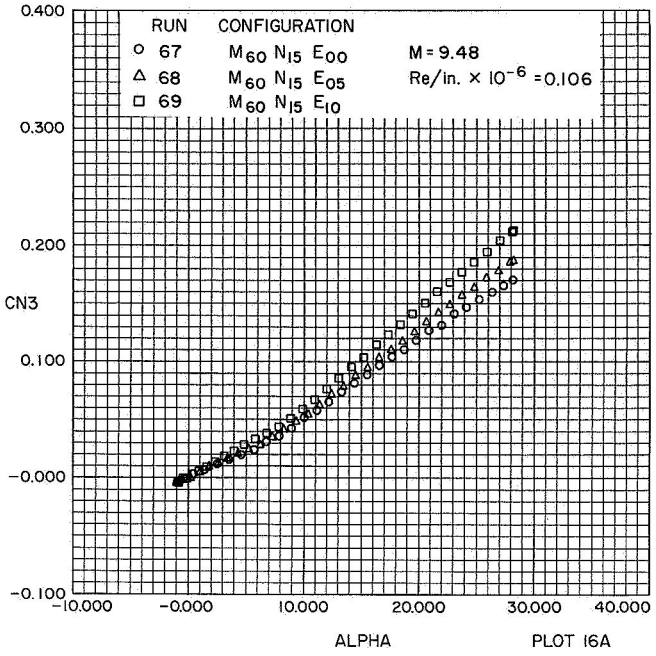

RUN CONFIGURATION
○ 60 $M_{60}\ N_{10}\ E_{00}$
△ 62 $M_{60}\ N_{10}\ E_{05}$
□ 64 $M_{60}\ N_{10}\ E_{05X}$
◇ 65 $M_{60}\ N_{10}\ E_{10}$
M = 9.48
Re/in. × 10^{-6} = 0.106
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15B


RUN CONFIGURATION
○ 60 $M_{60}\ N_{10}\ E_{00}$
△ 62 $M_{60}\ N_{10}\ E_{05}$
□ 64 $M_{60}\ N_{10}\ E_{05X}$
◇ 65 $M_{60}\ N_{10}\ E_{10}$
M = 9.48
Re/in. × 10^{-6} = 0.106
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15C

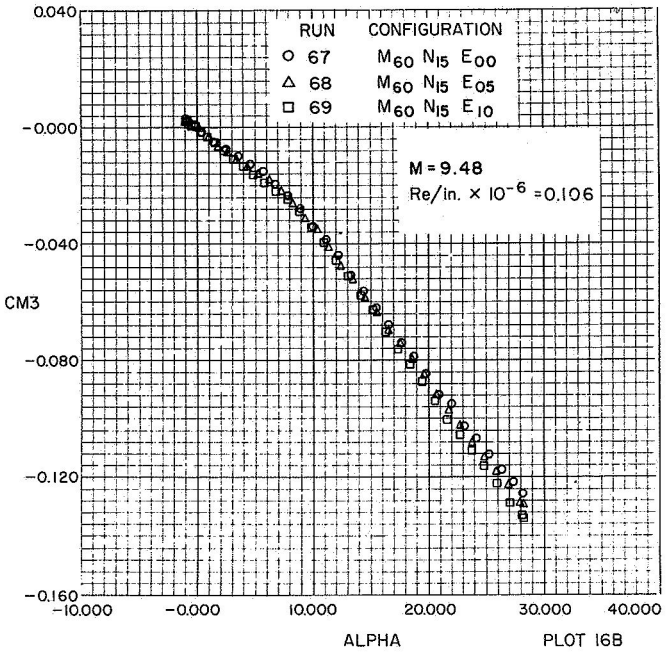

RUN CONFIGURATION
○ 60 $M_{60}\ N_{10}\ E_{00}$
△ 62 $M_{60}\ N_{10}\ E_{05}$
□ 64 $M_{60}\ N_{10}\ E_{05X}$
◇ 65 $M_{60}\ N_{10}\ E_{10}$
M = 9.48
Re/in. × 10^{-6} = 0.106
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15E


RUN CONFIGURATION
60 M_{60} N_{10} E_{00}
62 M_{60} N_{10} E_{05}
64 M_{60} N_{10} E_{05X}
65 M_{60} N_{10} E_{10}
M = 9.48
Re/in. × 10^{-6} = 0.106
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15F

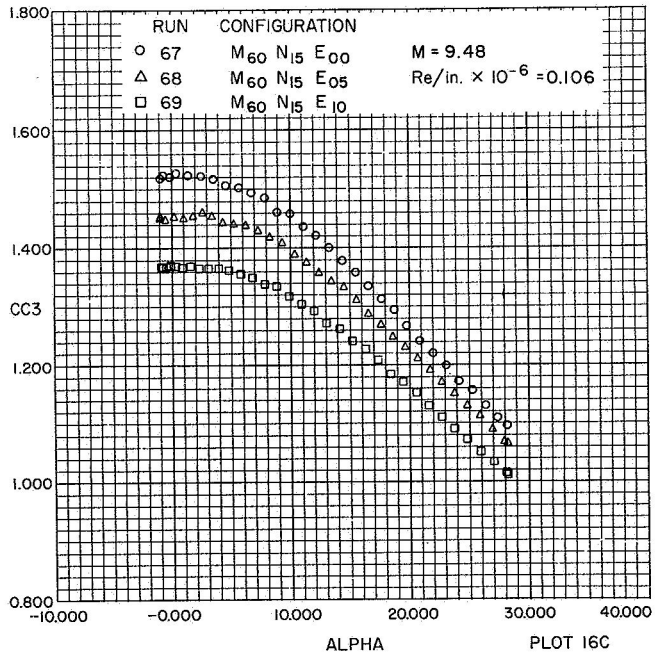

RUN CONFIGURATION
60 M_{60} N_{10} E_{00}
62 M_{60} N_{10} E_{05}
64 M_{60} N_{10} E_{05X}
65 M_{60} N_{10} E_{10}
M = 9.48
Re/in. × 10^{-6} = 0.106
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 15H



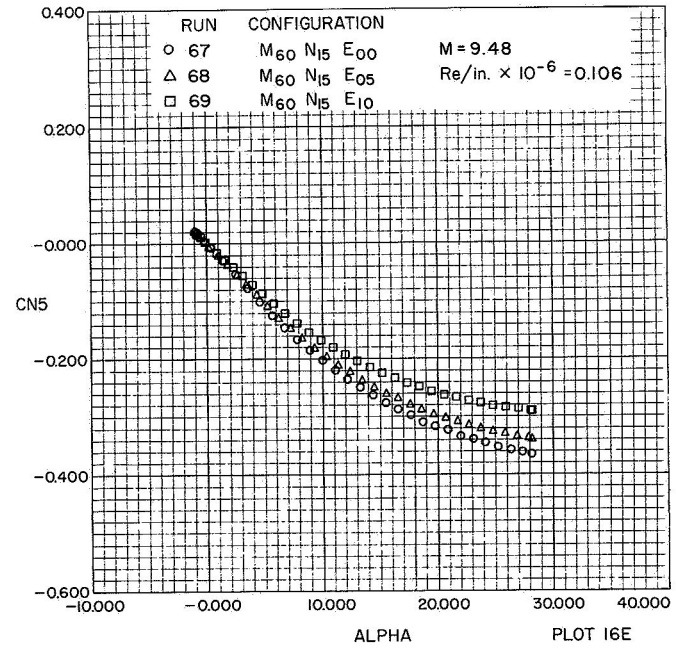
PLOT 16A



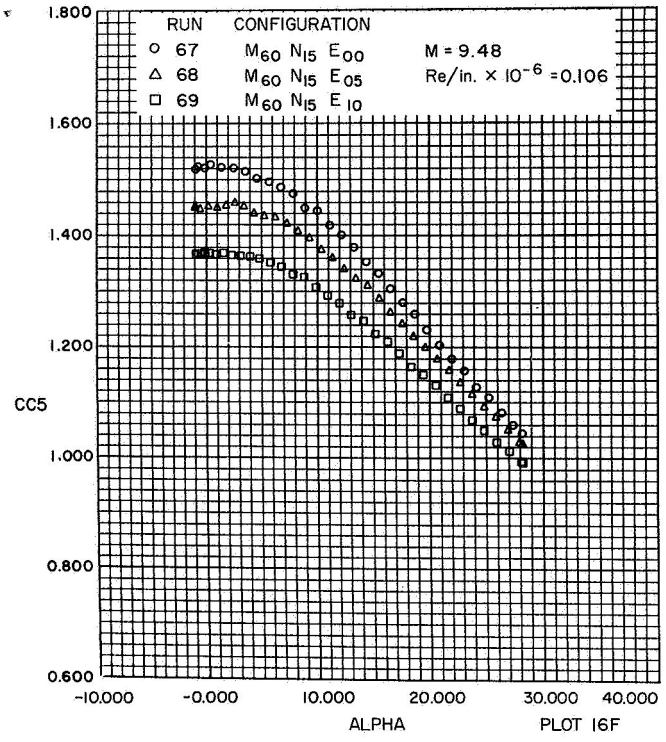
PLOT 16B

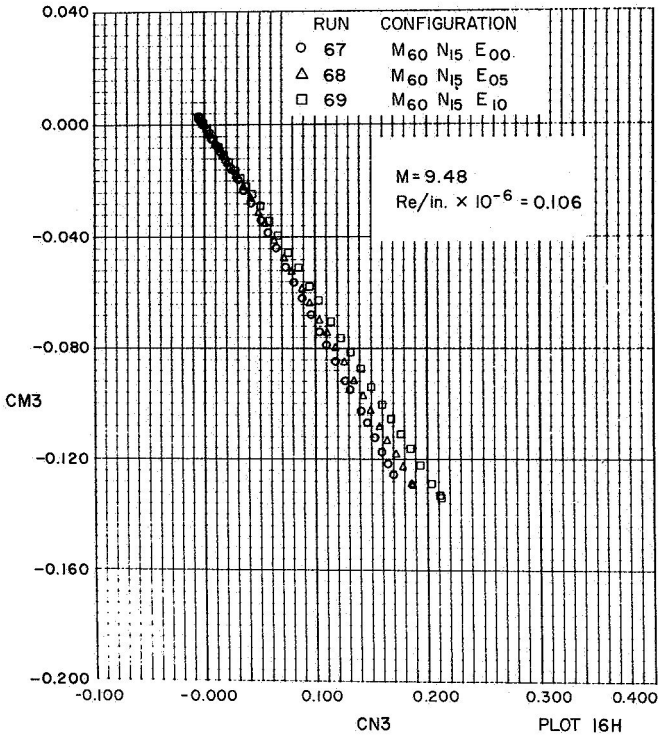


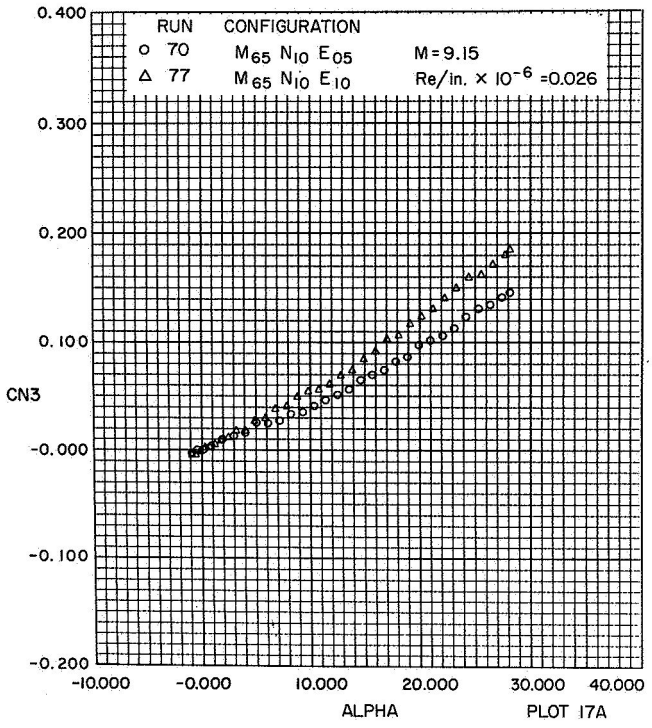
PLOT 16C

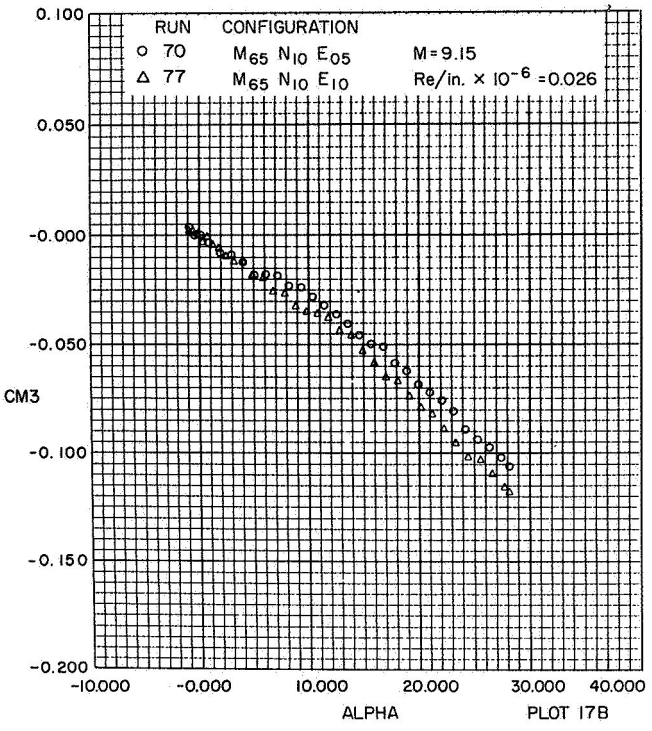


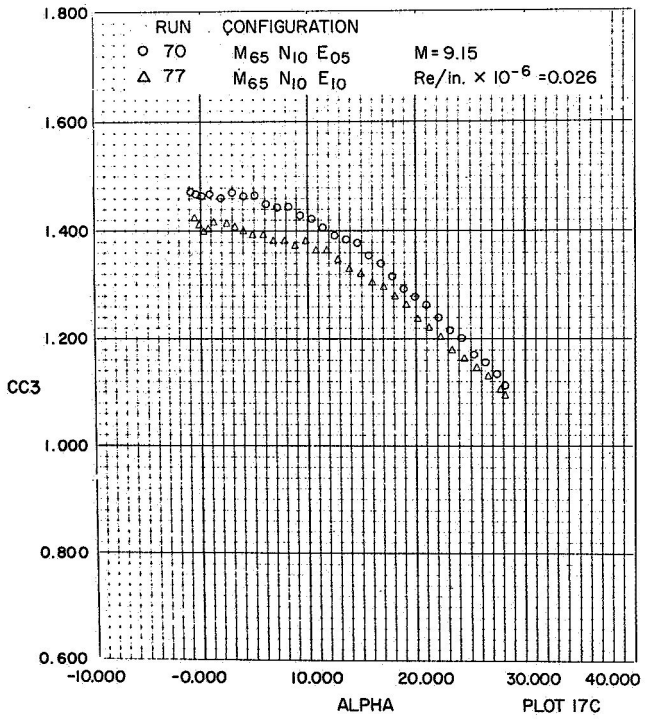
PLOT 16E

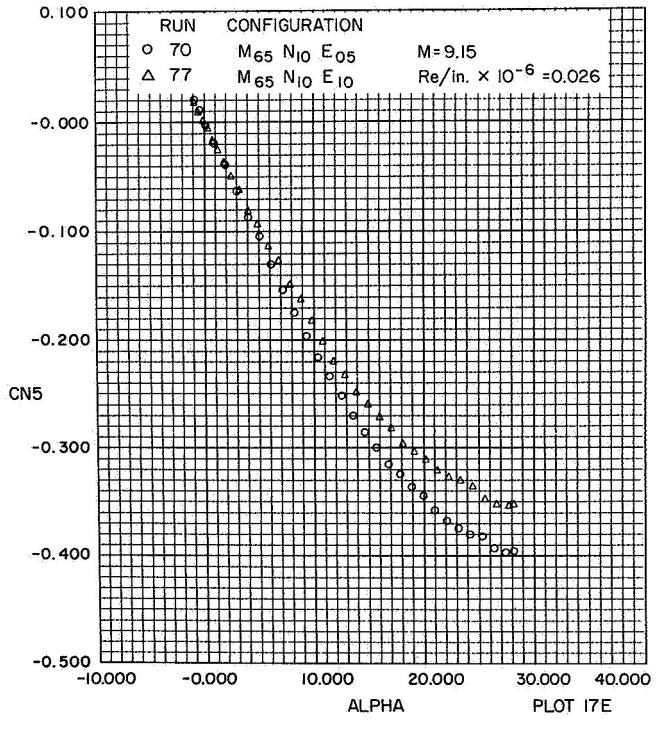

RUN CONFIGURATION
67 M60 N15 E00
68 M60 N15 E05
69 M60 N15 E10
M = 9.48
Re/in. × 10⁻⁶ = 0.106
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 16F

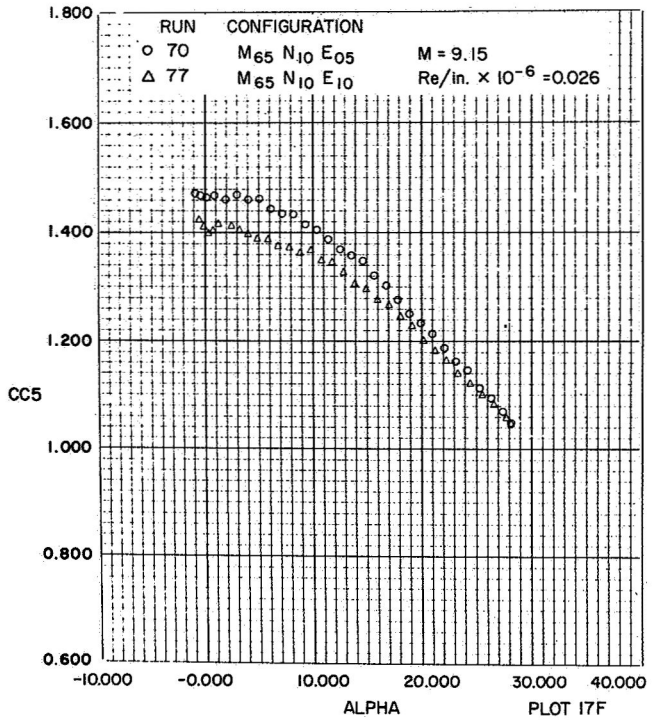

RUN CONFIGURATION
67 M60 N15 E00
68 M60 N15 E05
69 M60 N15 E10
M = 9.48
Re/in. × 10⁻⁶ = 0.106
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 16H

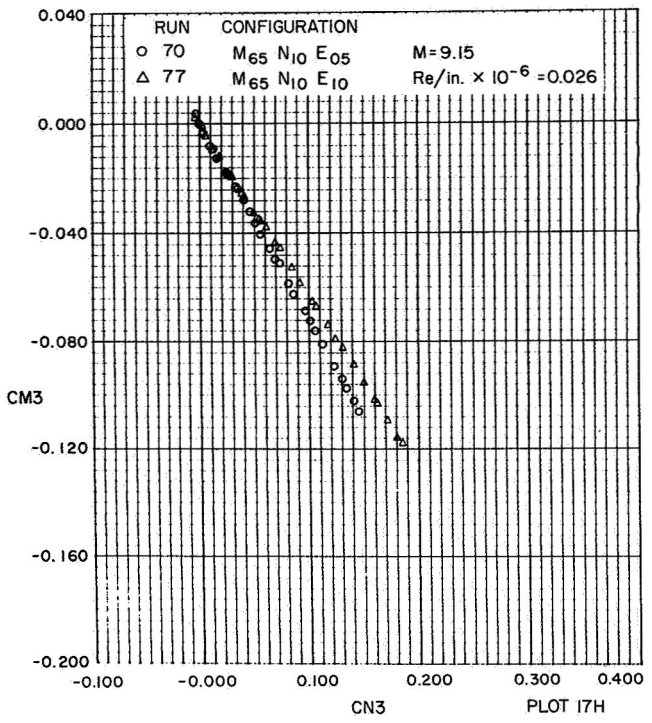

RUN CONFIGURATION
o 70 M_{65} N_{10} E_{05} M=9.15
Δ 77 M_{65} N_{10} E_{10} Re/in. × 10^{-6} =0.026
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
CN3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 17A

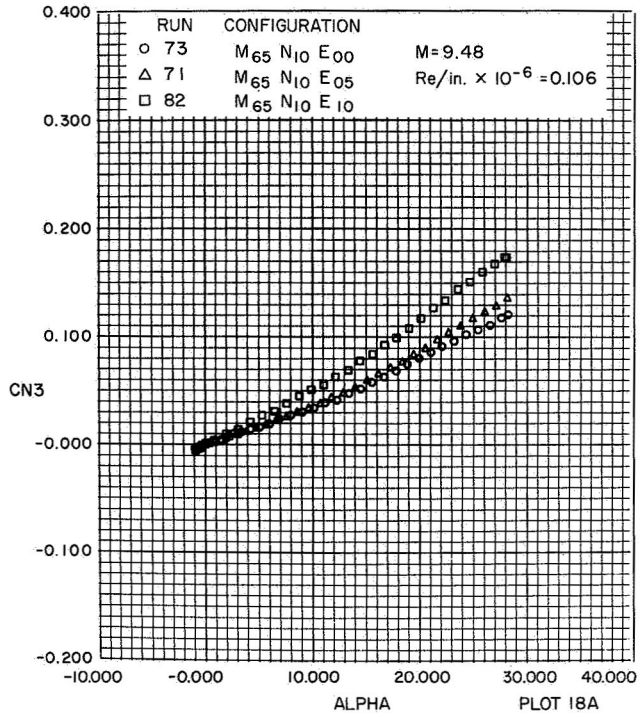

RUN CONFIGURATION
o 70 M_{65} N_{10} E_{05} M=9.15
Δ 77 M_{65} N_{10} E_{10} Re/in. × 10^{-6} =0.026
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
CM3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 17B

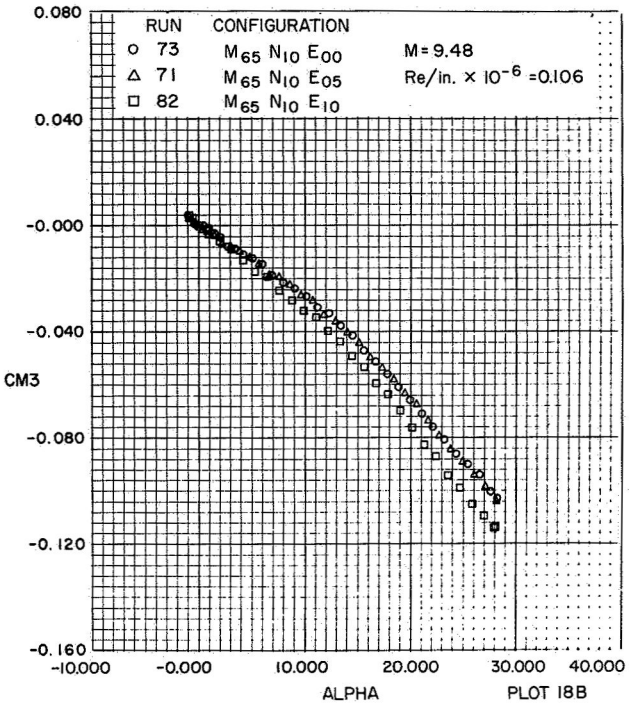

RUN CONFIGURATION
o 70 M_{65} N_{10} E_{05} M=9.15
Δ 77 M_{65} N_{10} E_{10} Re/in. × 10^{-6} =0.026
1.800
1.600
1.400
1.200
1.000
0.800
0.600
CC3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 17C

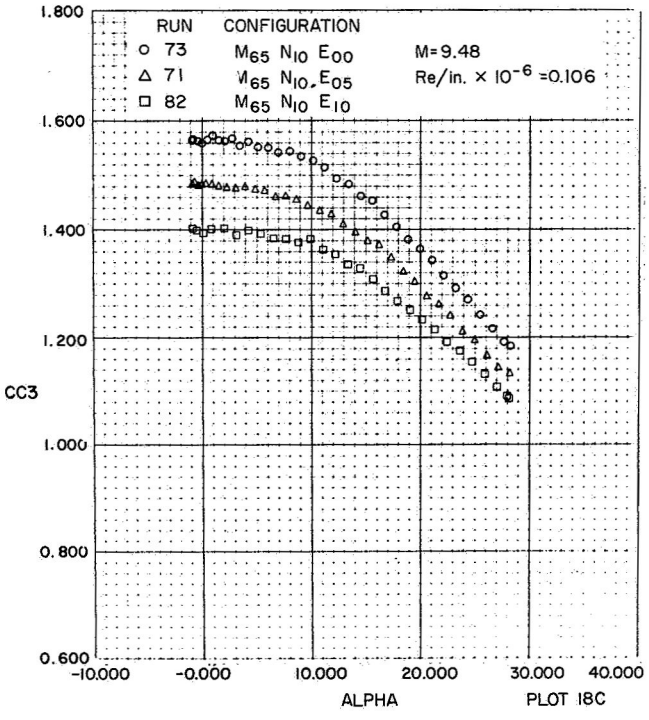

RUN CONFIGURATION
o 70 M_{65} N_{10} E_{05} M=9.15
Δ 77 M_{65} N_{10} E_{10} Re/in. × 10^{-6} =0.026
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
CN5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 17E

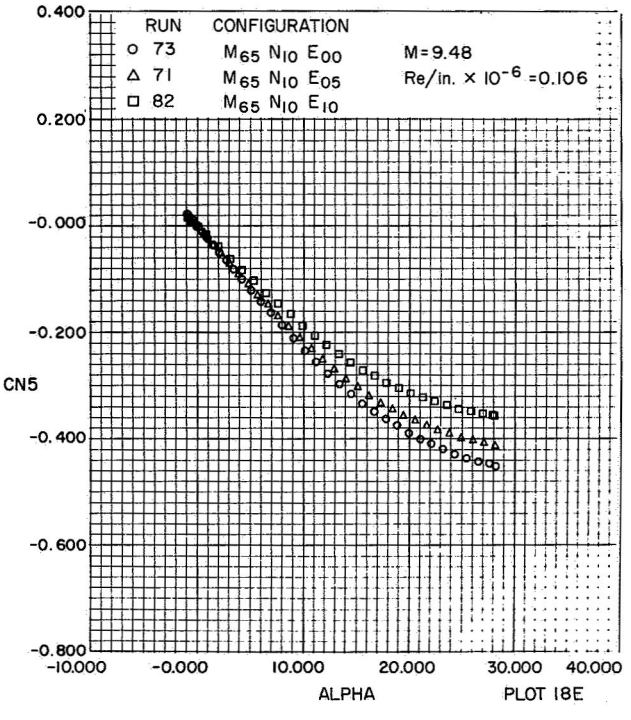

RUN CONFIGURATION
o 70 M65 N10 E05 M = 9.15
Δ 77 M65 N10 E10 Re/in. × 10-6 =0.026
1.800
1.600
1.400
1.200
1.000
0.800
0.600
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 17F

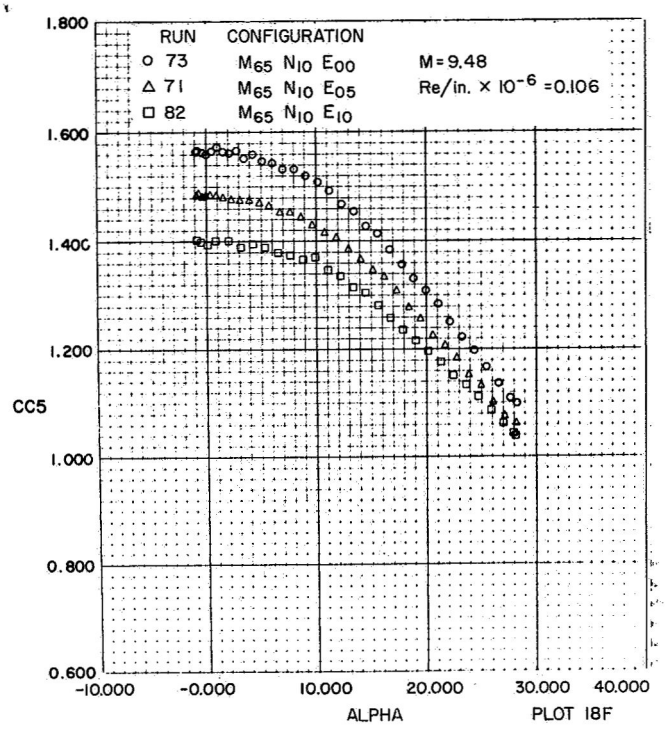

RUN CONFIGURATION
o 70 M65 N10 E05 M=9.15
Δ 77 M65 N10 E10 Re/in. × 10-6 =0.026
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 17H

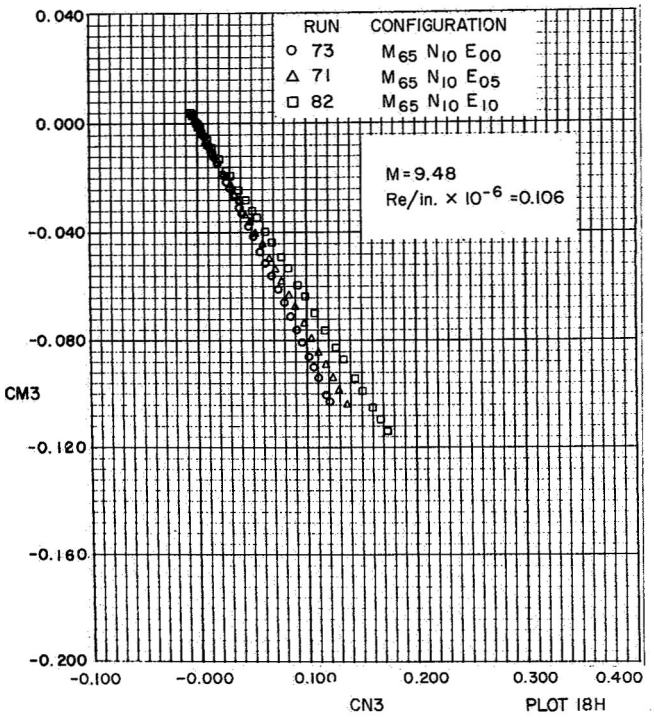

RUN CONFIGURATION
o 73 M65 N10 E00
Δ 71 M65 N10 E05
□ 82 M65 N10 E10
M=9.48
Re/in. × 10-6 =0.106
CN3
ALPHA
PLOT 18A

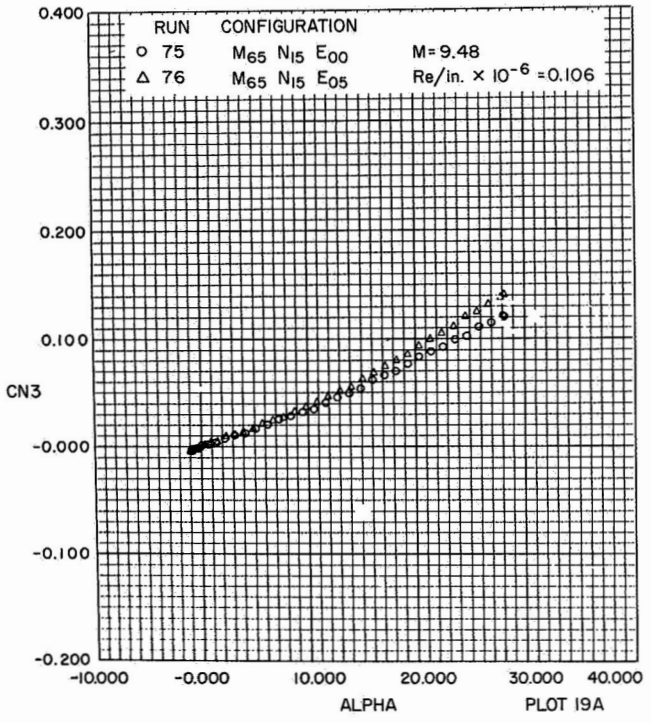

RUN CONFIGURATION
o 73 M65 N10 E00
Δ 71 M65 N10 E05
□ 82 M65 N10 E10
M=9.48
Re/in. × 10-6 =0.106
CM3
ALPHA
PLOT 18B

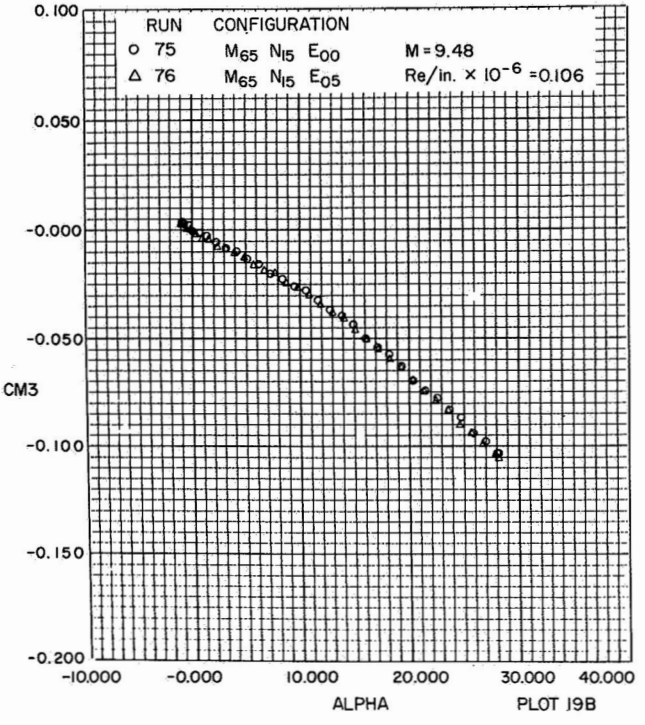

RUN CONFIGURATION
o 73 M65 N10 E00
Δ 71 M65 N10 E05
□ 82 M65 N10 E10
M=9.48
Re/in. × 10-6 =0.106
CC3
ALPHA
PLOT 18C

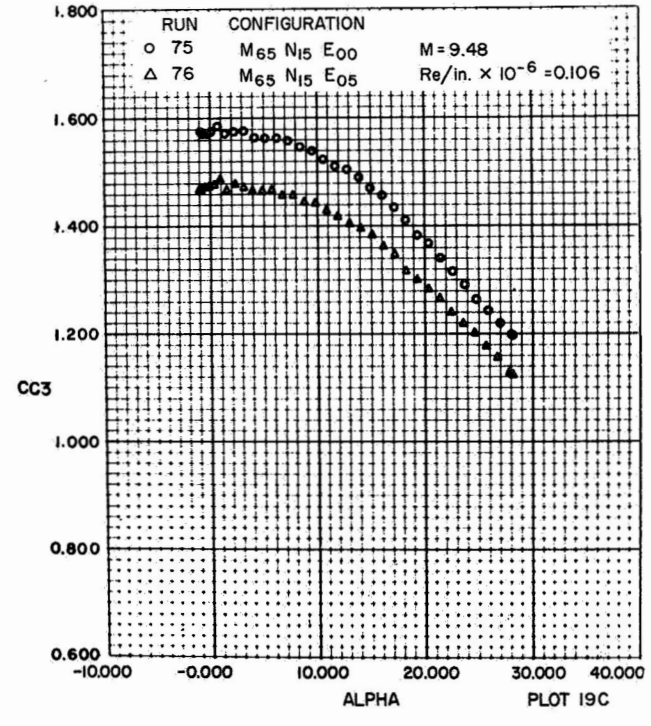

RUN CONFIGURATION
o 73 M65 N10 E00
Δ 71 M65 N10 E05
□ 82 M65 N10 E10
M=9.48
Re/in. × 10-6 =0.106
CN5
ALPHA
PLOT 18E

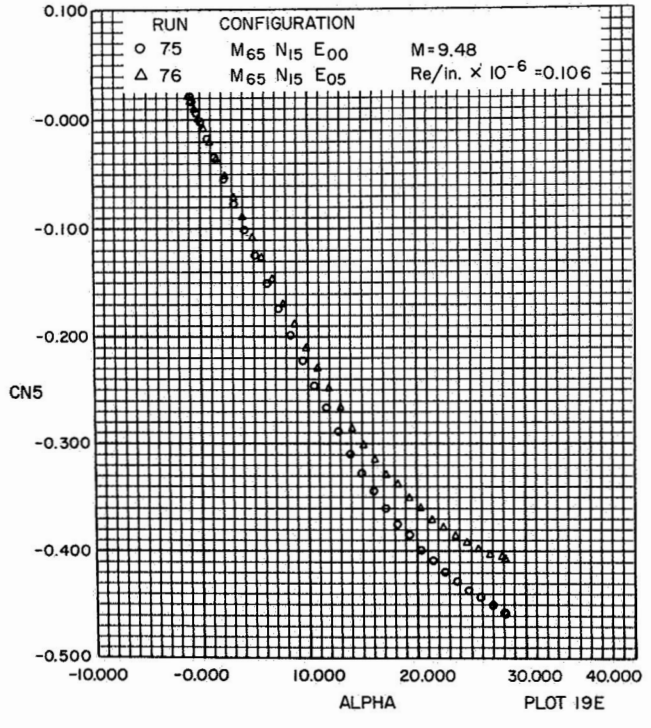

RUN CONFIGURATION
o 73 M65 N10 E00
Δ 71 M65 N10 E05
□ 82 M65 N10 E10
M=9.48
Re/in. × 10⁻⁶ =0.106
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 18F

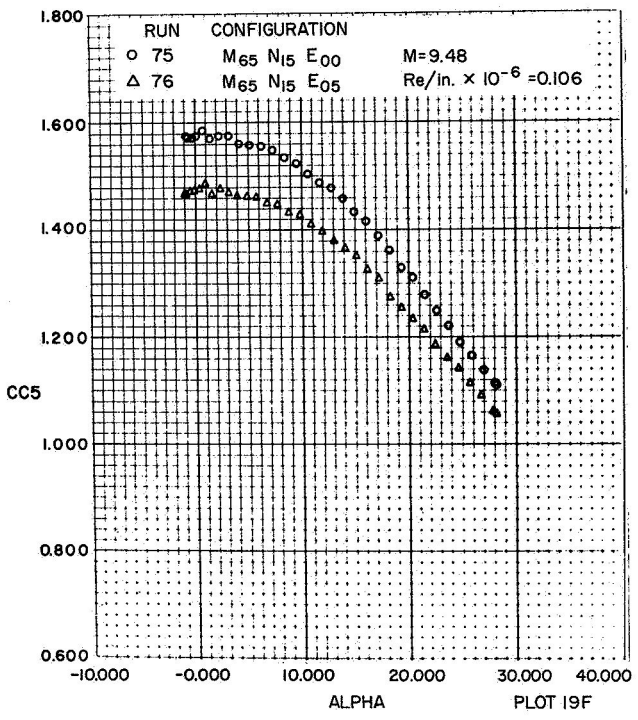

RUN CONFIGURATION
o 73 M65 N10 E00
Δ 71 M65 N10 E05
□ 82 M65 N10 E10
M=9.48
Re/in. × 10⁻⁶ =0.106
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 18H

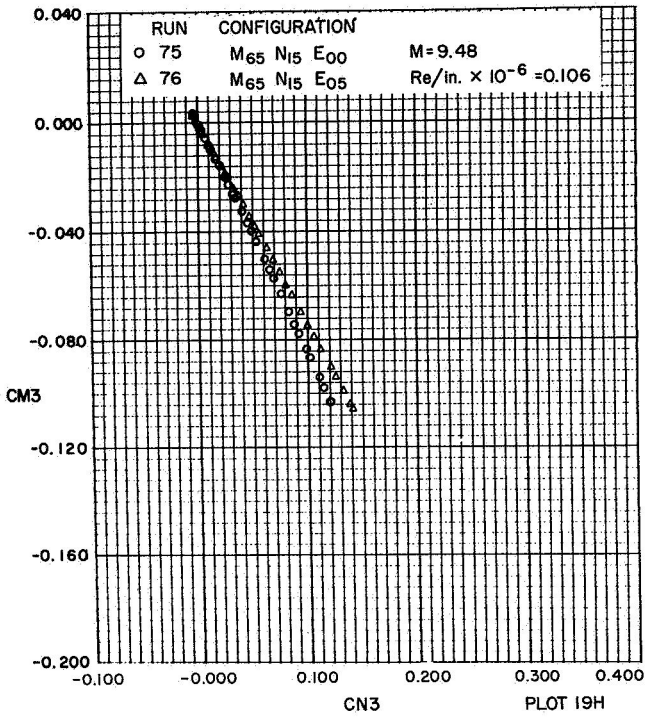

RUN CONFIGURATION
o 75 M65 N15 E00 M=9.48
Δ 76 M65 N15 E05 Re/in. × 10⁻⁶ =0.106
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
CN3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 19A

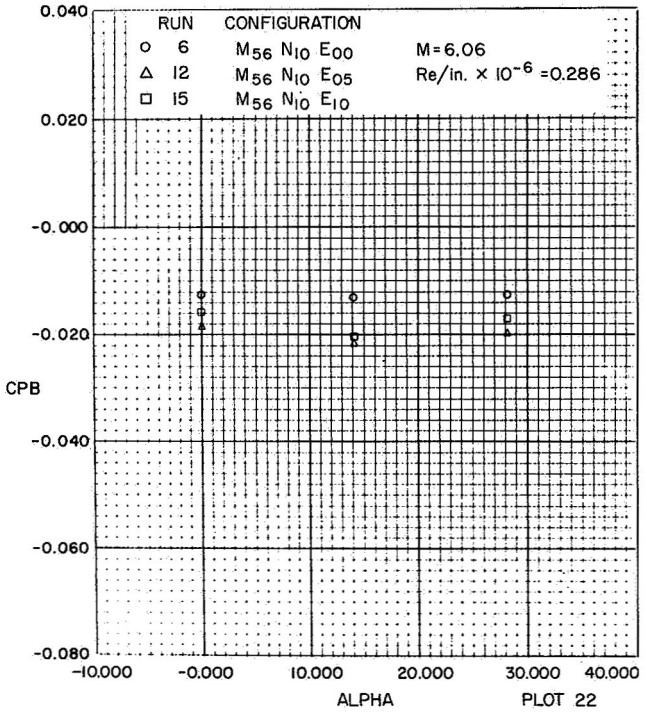

RUN CONFIGURATION
o 75 M65 N15 E00 M=9.48
Δ 76 M65 N15 E05 Re/in. × 10⁻⁶ =0.106
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
CM3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 19B

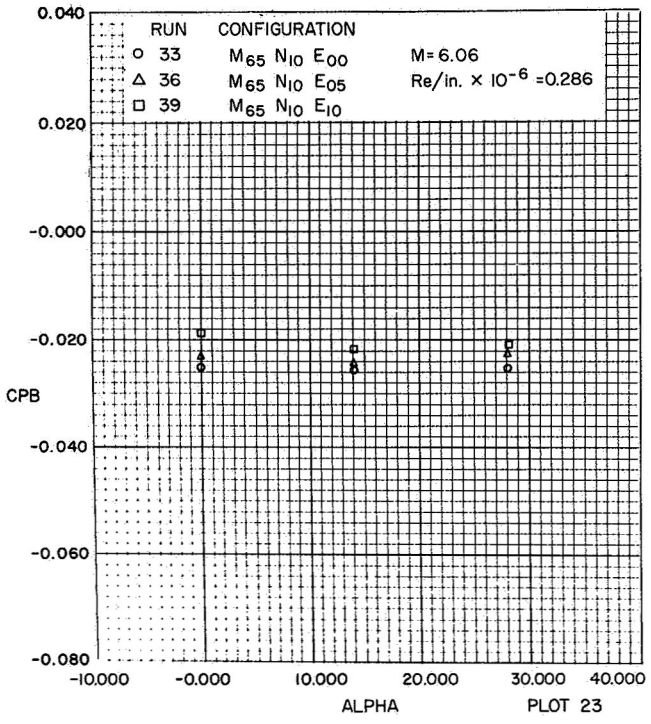

RUN CONFIGURATION
o 75 M65 N15 E00 M=9.48
Δ 76 M65 N15 E05 Re/in. × 10⁻⁶ =0.106
1.800
1.600
1.400
1.200
1.000
0.800
0.600
CC3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 19C


RUN CONFIGURATION
o 75 M65 N15 E00 M=9.48
Δ 76 M65 N15 E05 Re/in. × 10⁻⁶ =0.106
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
CN5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 19E


RUN CONFIGURATION
o 75 M65 N15 E00 M=9.48
Δ 76 M65 N15 E05 Re/in. × 10⁻⁶ =0.106
1.800
1.600
1.400
1.200
1.000
0.800
0.600
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 19F


RUN CONFIGURATION
o 75 M65 N15 E00 M=9.48
Δ 76 M65 N15 E05 Re/in. × 10⁻⁶ =0.106
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 19H


RUN
CONFIGURATION
o 6 M56 N10 E00
Δ 12 M56 N10 E05
□ 15 M56 N10 E10
M=6.06
Re/in. × 10⁻⁶ =0.286
0.040
0.020
-0.000
-0.020
-0.040
-0.060
-0.080
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 22


RUN
CONFIGURATION
o 33
M65 N10 E00
M=6.06
Δ 36
M65 N10 E05
Re/in. × 10-6 =0.286
□ 39
M65 N10 E10
0.040
0.020
-0.000
-0.020
-0.040
-0.060
-0.080
CPB
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 23

Test 21-192B

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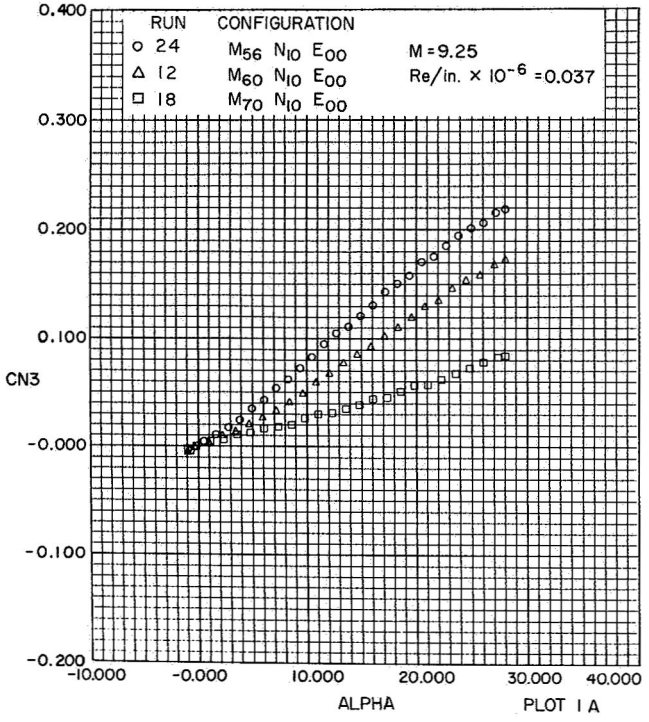
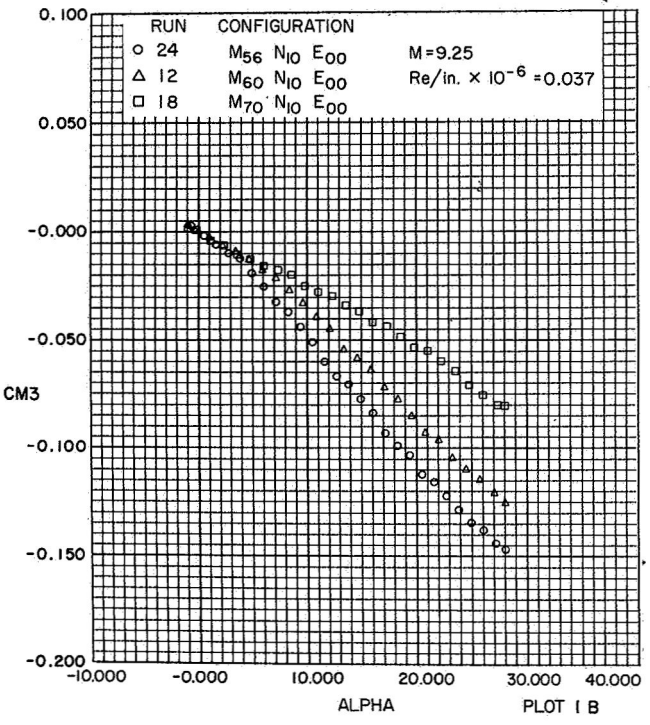
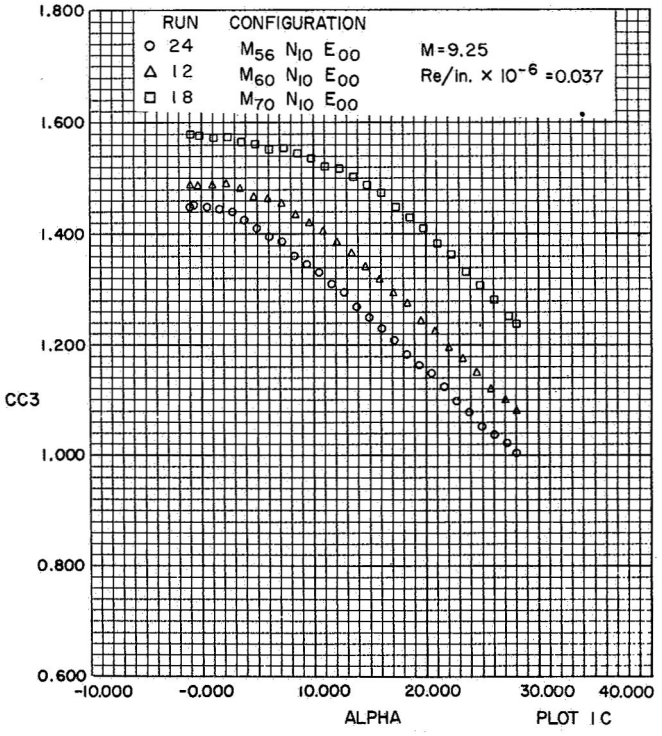
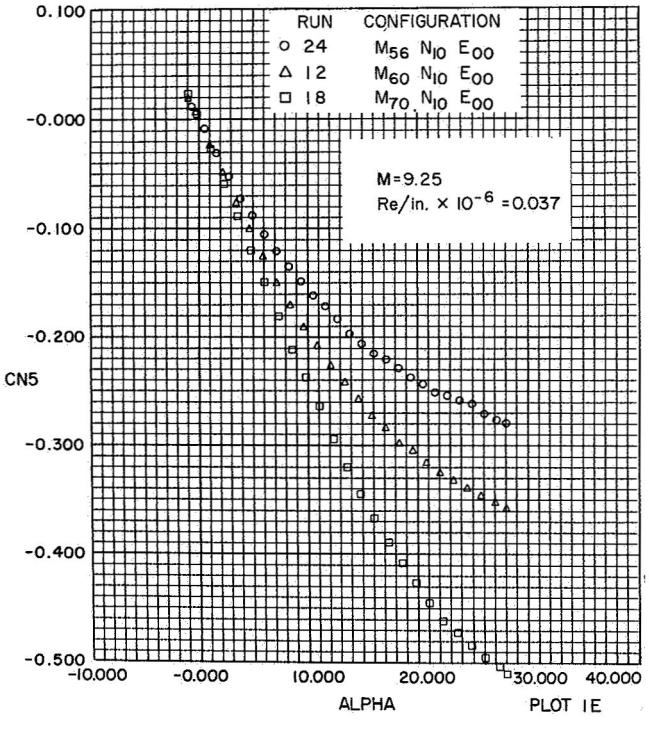
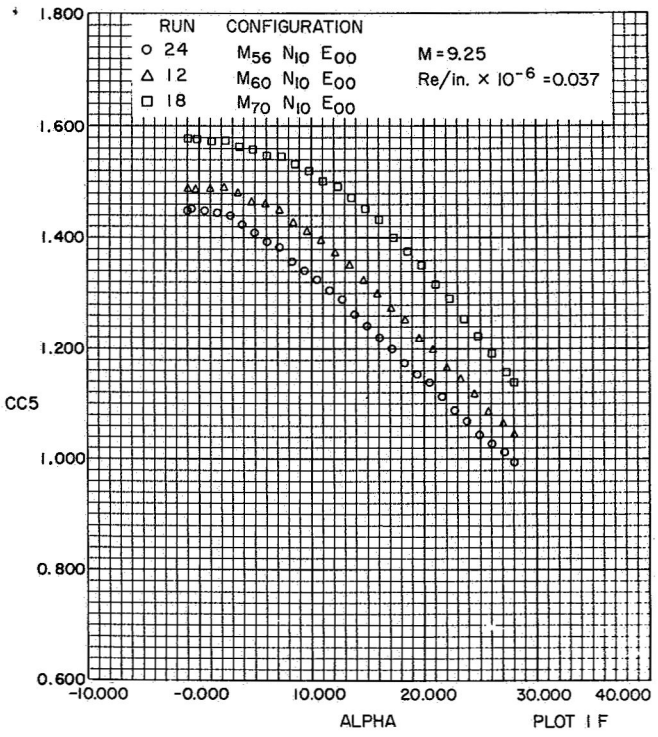
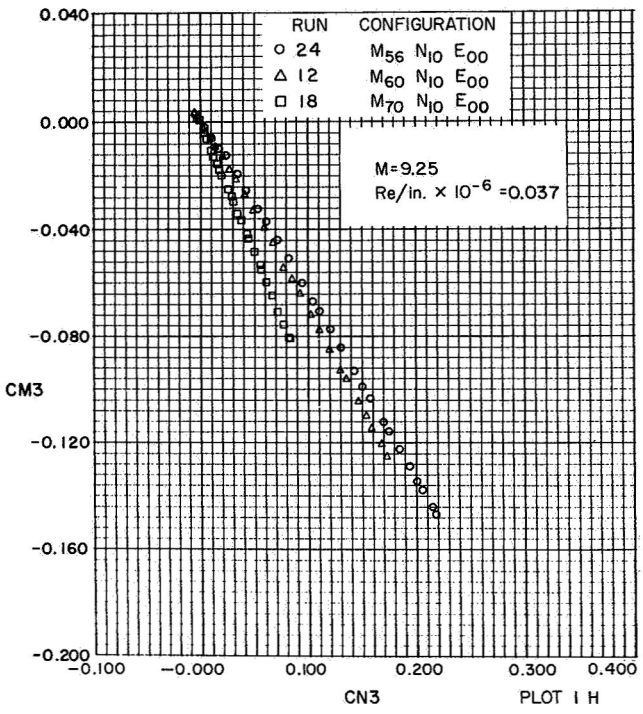

RUN CONFIGURATION
o 24 M_{56} N_{10} E_{00}
Δ 12 M_{60} N_{10} E_{00}
□ 18 M_{70} N_{10} E_{00}
M=9.25
Re/in. × 10^{-6} =0.037
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I A

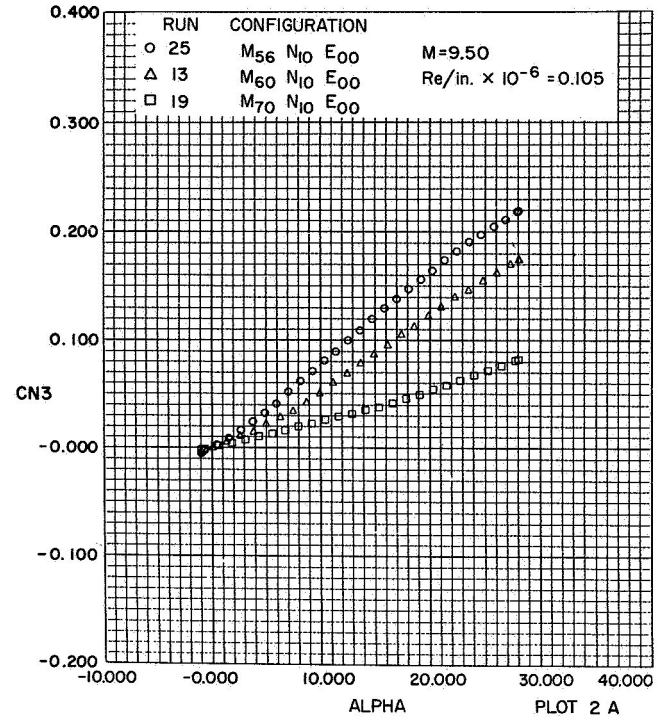

RUN CONFIGURATION
o 24 M_{56} N_{10} E_{00}
Δ 12 M_{60} N_{10} E_{00}
□ 18 M_{70} N_{10} E_{00}
M=9.25
Re/in. × 10^{-6} =0.037
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I B

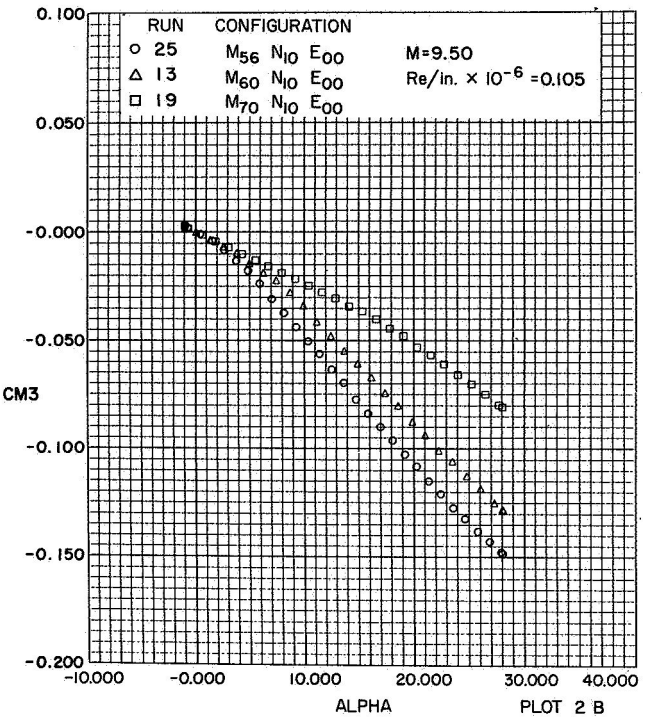

RUN CONFIGURATION
o 24 M_{56} N_{10} E_{00}
Δ 12 M_{60} N_{10} E_{00}
□ 18 M_{70} N_{10} E_{00}
M=9.25
Re/in. × 10^{-6} =0.037
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I C

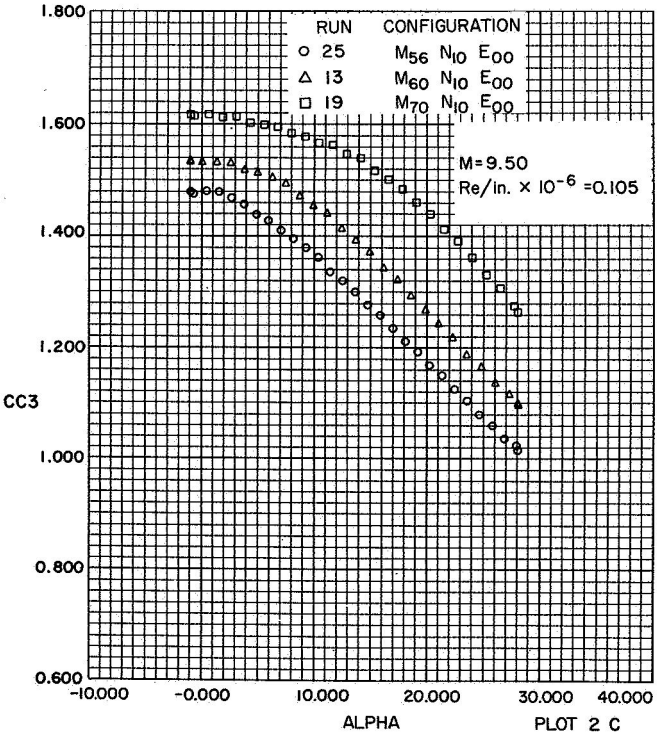

RUN CONFIGURATION
o 24 M_{56} N_{10} E_{00}
Δ 12 M_{60} N_{10} E_{00}
□ 18 M_{70} N_{10} E_{00}
M=9.25
Re/in. × 10^{-6} =0.037
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I E

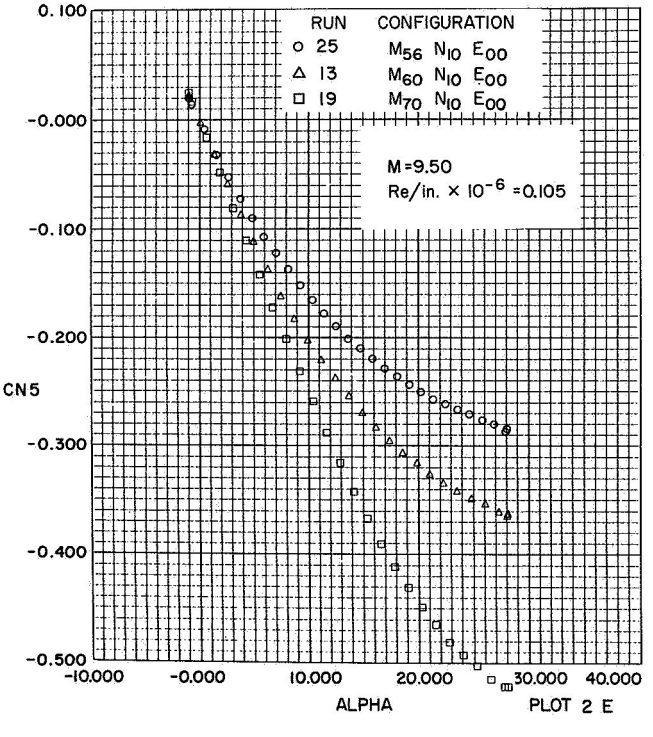

RUN CONFIGURATION
o 24 M56 N10 E00
Δ 12 M60 N10 E00
□ 18 M70 N10 E00
M=9.25
Re/in. × 10⁻⁶ =0.037
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I F

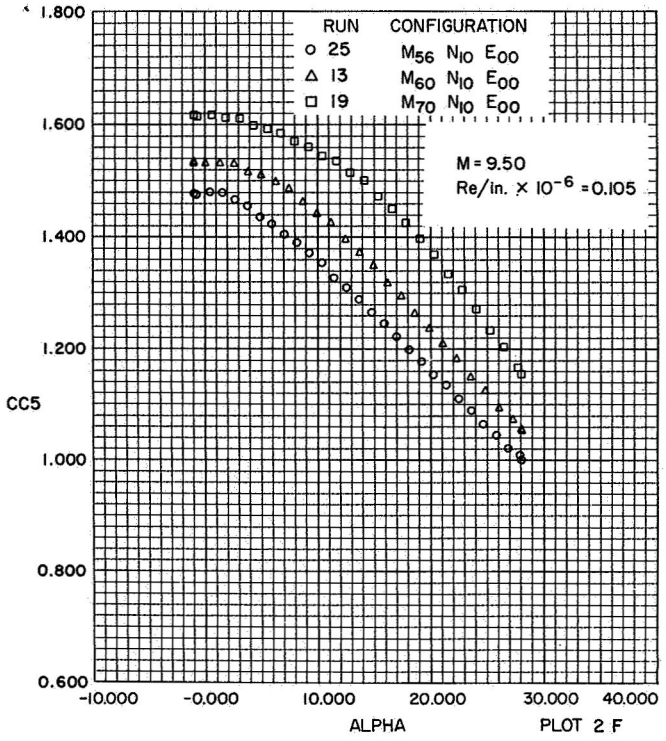

RUN CONFIGURATION
o 24 M56 N10 E00
Δ 12 M60 N10 E00
□ 18 M70 N10 E00
M=9.25
Re/in. × 10⁻⁶ =0.037
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT I H

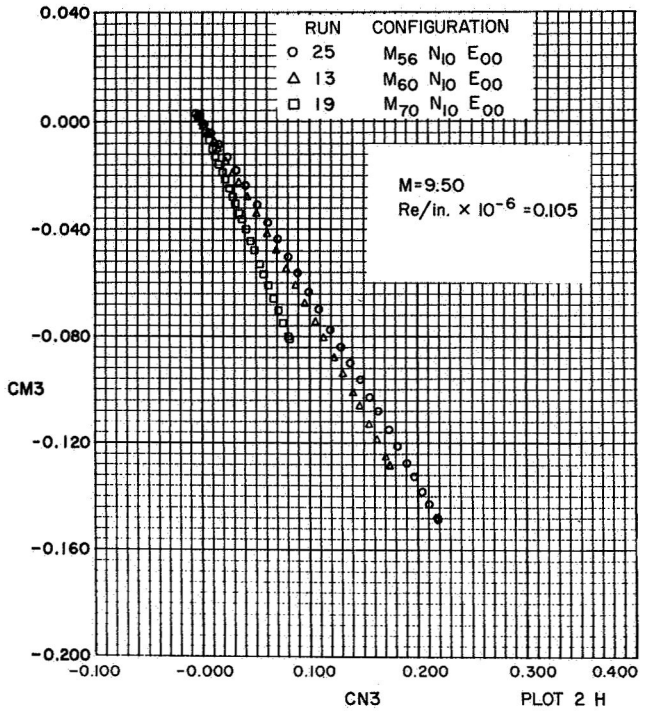

RUN CONFIGURATION
o 25 M56 N10 E00
Δ 13 M60 N10 E00
□ 19 M70 N10 E00
M=9.50
Re/in. × 10-6 =0.105
CN3
ALPHA
PLOT 2 A

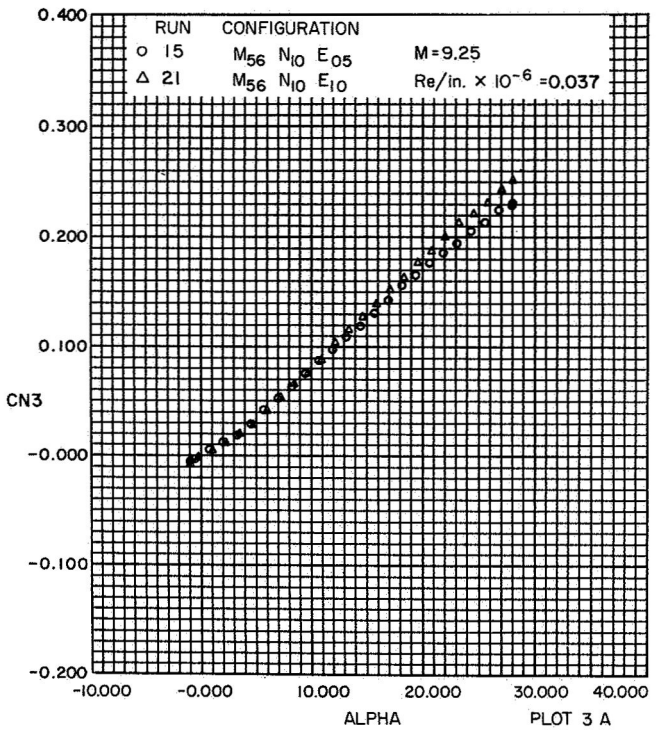

RUN CONFIGURATION
o 25 M56 N10 E00
Δ 13 M60 N10 E00
□ 19 M70 N10 E00
M=9.50
Re/in. × 10-6 =0.105
CM3
ALPHA
PLOT 2 B

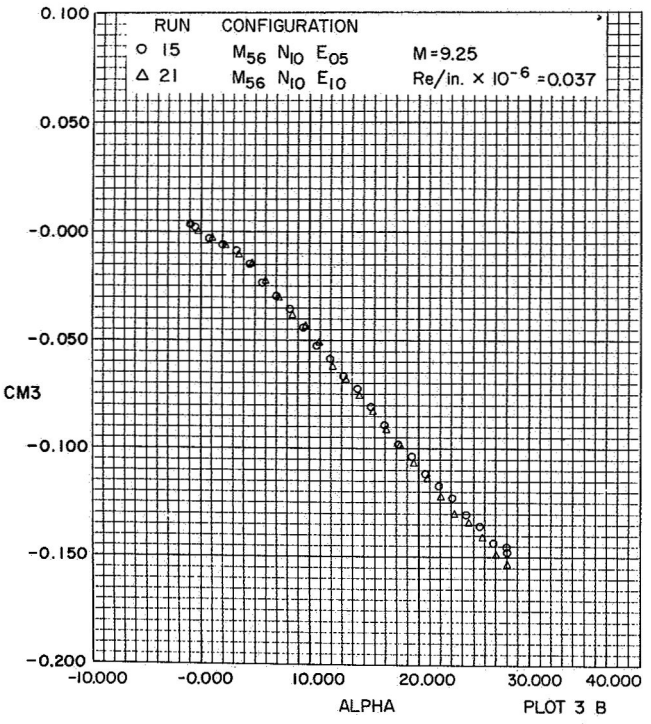

RUN CONFIGURATION
o 25 M56 N10 E00
Δ 13 M60 N10 E00
□ 19 M70 N10 E00
M=9.50
Re/in. × 10-6 =0.105
CC3
ALPHA
PLOT 2 C

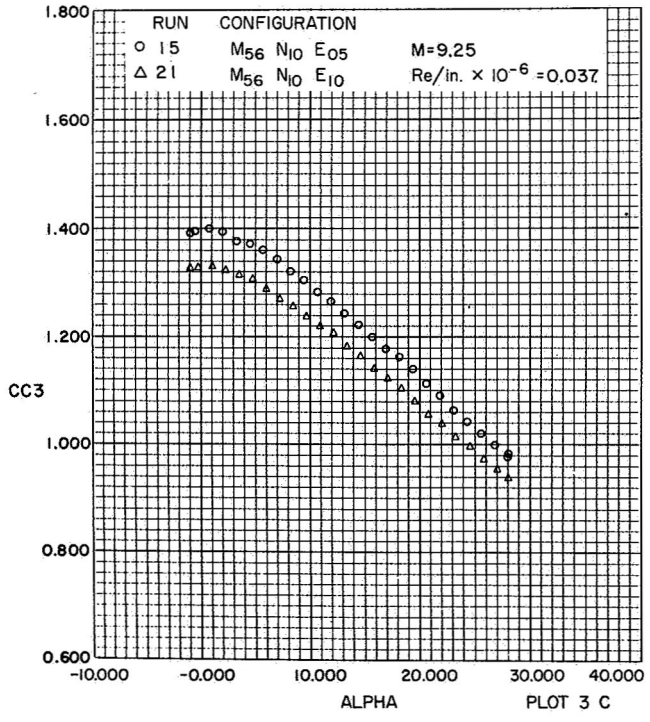

RUN CONFIGURATION
o 25 M56 N10 E00
Δ 13 M60 N10 E00
□ 19 M70 N10 E00
M=9.50
Re/in. × 10-6 =0.105
CN5
ALPHA
PLOT 2 E

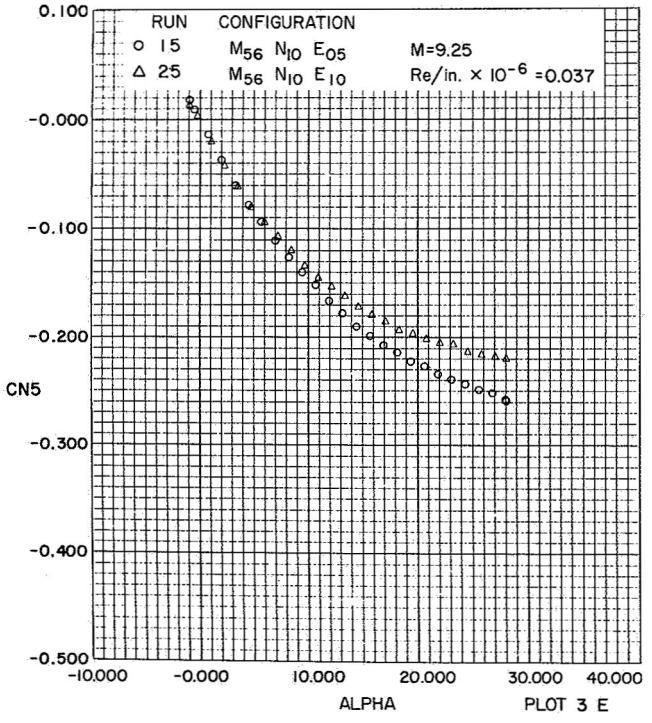

RUN
CONFIGURATION
o 25 M56 N10 E00
Δ 13 M60 N10 E00
□ 19 M70 N10 E00
M=9.50
Re/in. × 10⁻⁶ =0.105
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2 F

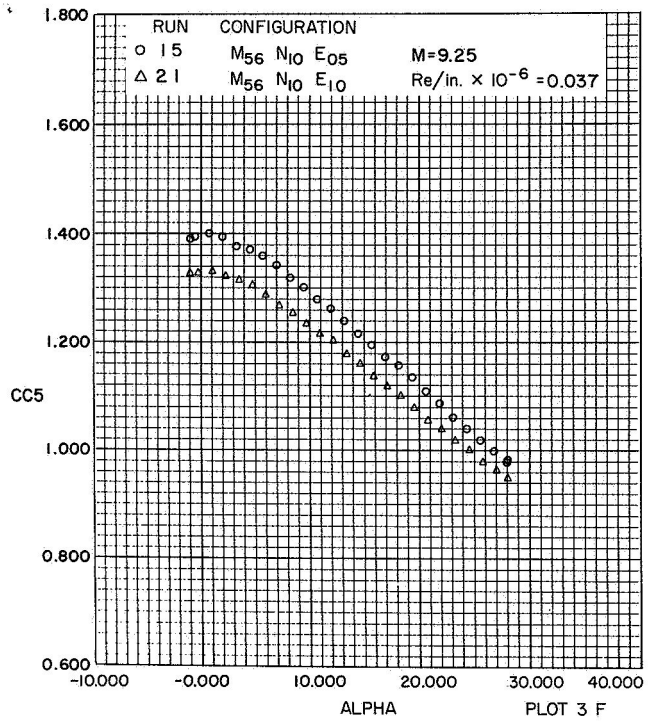

RUN
CONFIGURATION
o 25 M56 N10 E00
Δ 13 M60 N10 E00
□ 19 M70 N10 E00
M=9.50
Re/in. × 10⁻⁶ =0.105
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 2 H

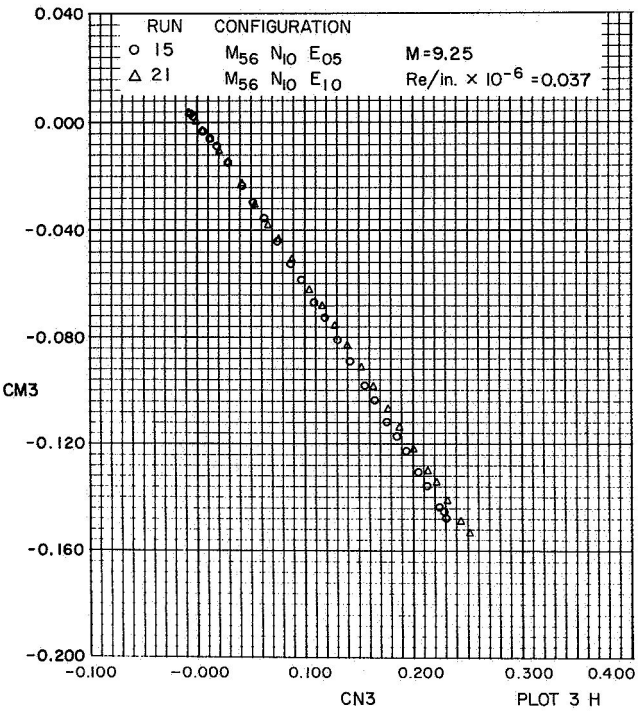

RUN CONFIGURATION
o 15 M_{56} N_{10} E_{05} M=9.25
Δ 21 M_{56} N_{10} E_{10} Re/in. × 10^{-6} =0.037
CN3
ALPHA
PLOT 3 A

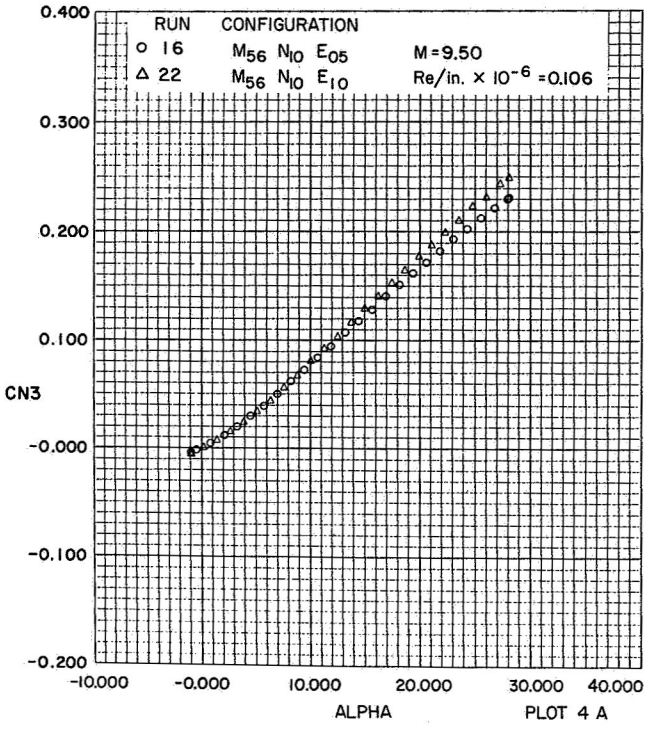

RUN CONFIGURATION
o 15 M_{56} N_{10} E_{05} M=9.25
Δ 21 M_{56} N_{10} E_{10} Re/in. × 10^{-6} =0.037
CM3
ALPHA
PLOT 3 B


RUN CONFIGURATION
o 15 M_{56} N_{10} E_{05} M=9.25
Δ 21 M_{56} N_{10} E_{10} Re/in. × 10^{-6} =0.037
CC3
ALPHA
PLOT 3 C

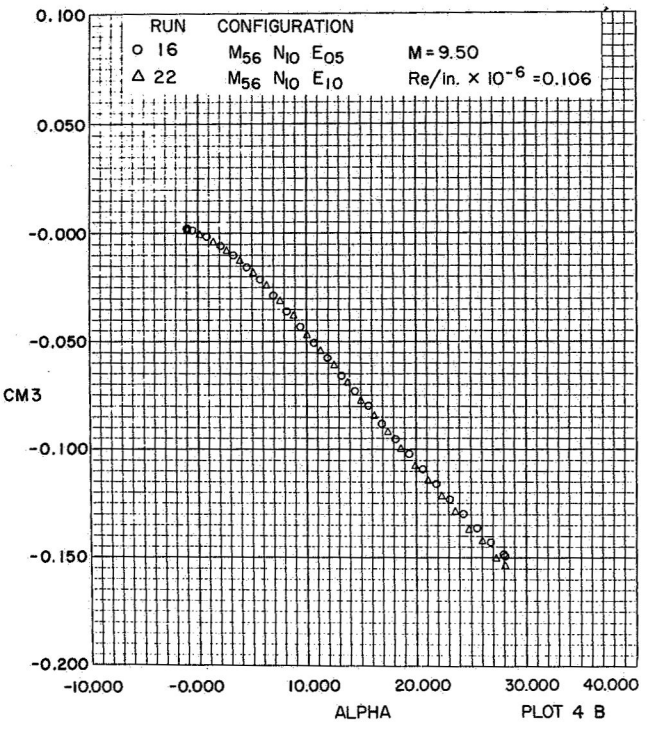

RUN CONFIGURATION
o 15 M_{56} N_{10} E_{05} M=9.25
Δ 25 M_{56} N_{10} E_{10} Re/in. × 10^{-6} =0.037
CN5
ALPHA
PLOT 3 E


RUN CONFIGURATION
o 15 M56 N10 E05 M=9.25
Δ 21 M56 N10 E10 Re/in. × 10⁻⁶ =0.037
1.800
1.600
1.400
1.200
1.000
0.800
0.600
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 3 F

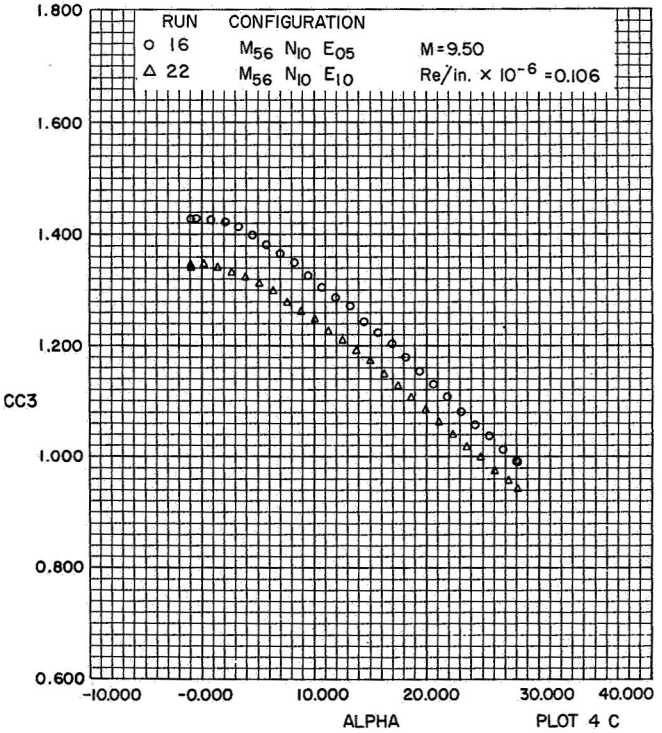

RUN CONFIGURATION
o 15 M56 N10 E05 M=9.25
Δ 21 M56 N10 E10 Re/in. × 10⁻⁶ =0.037
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 3 H



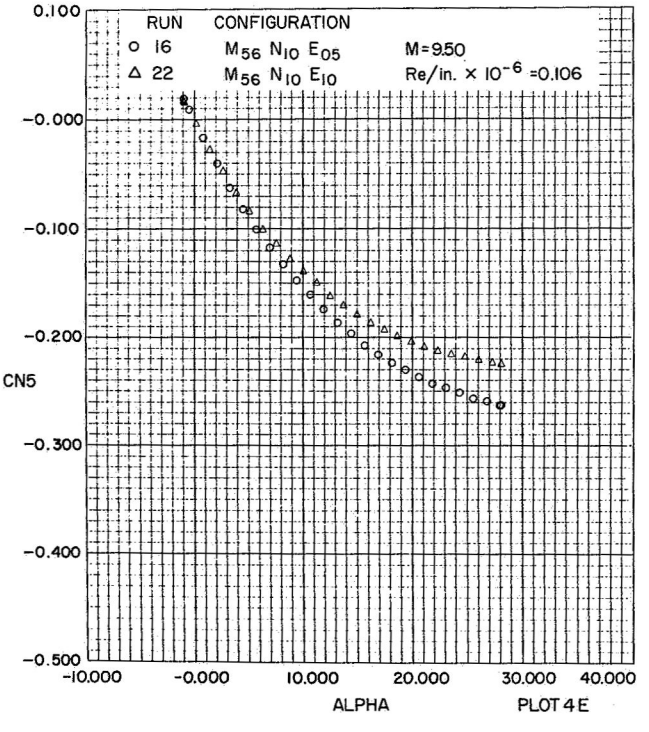
PLOT 4 A



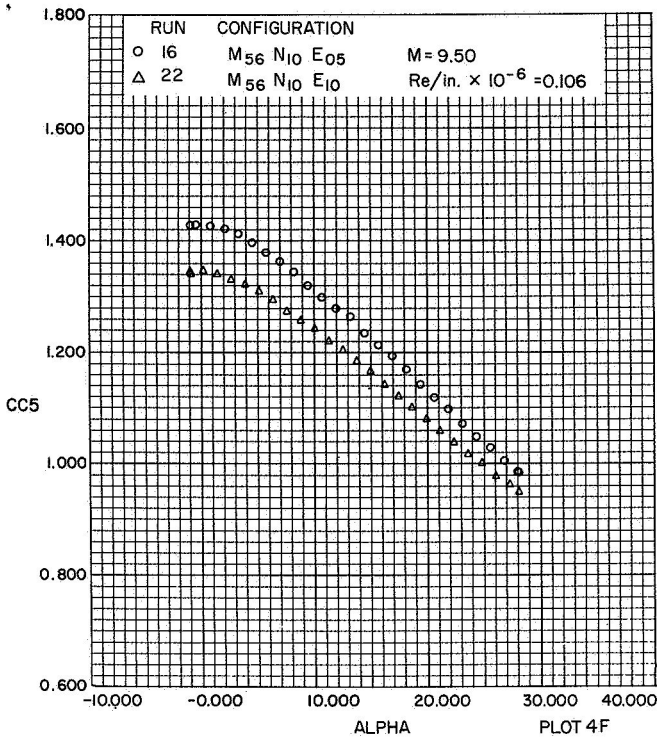
PLOT 4 B

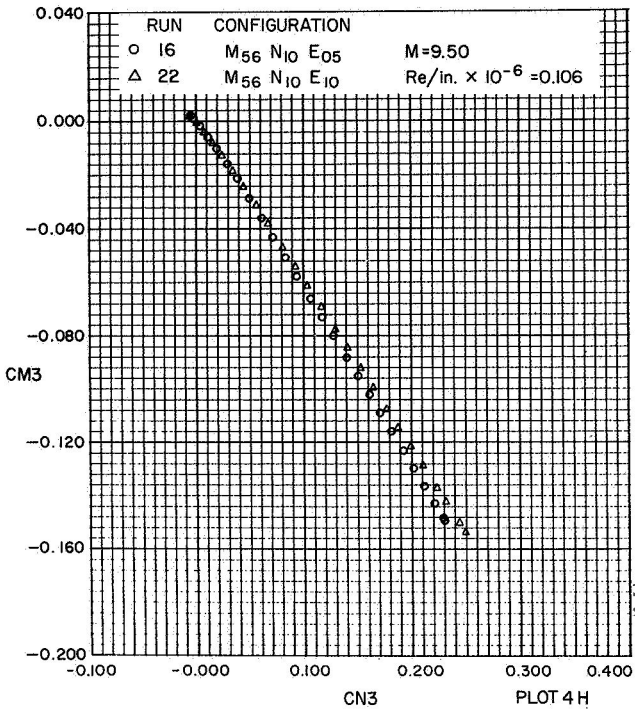


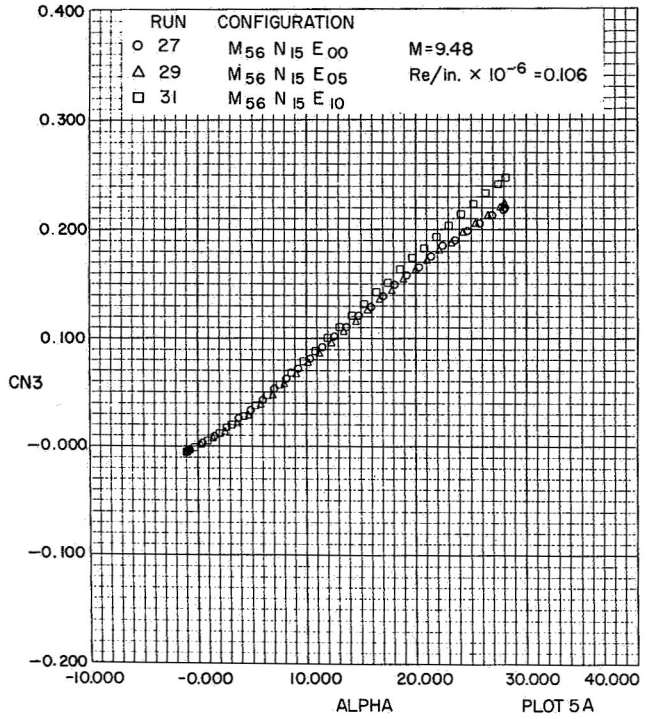
PLOT 4 C

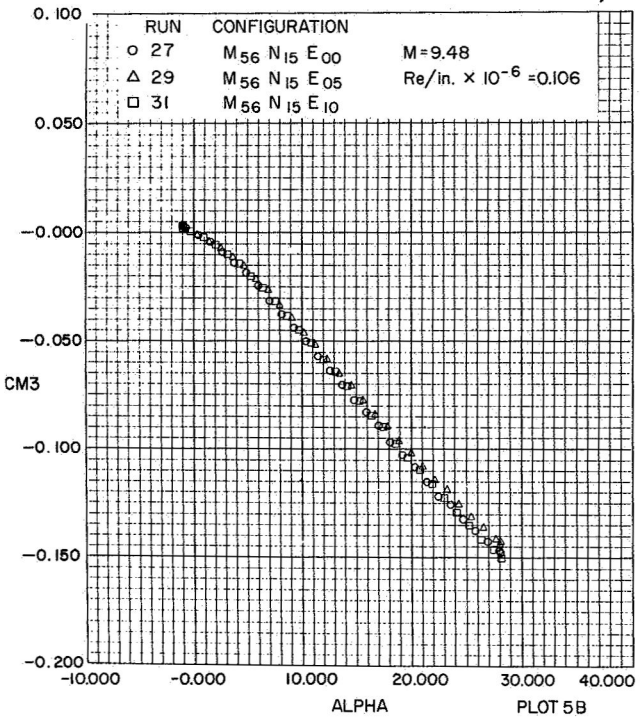


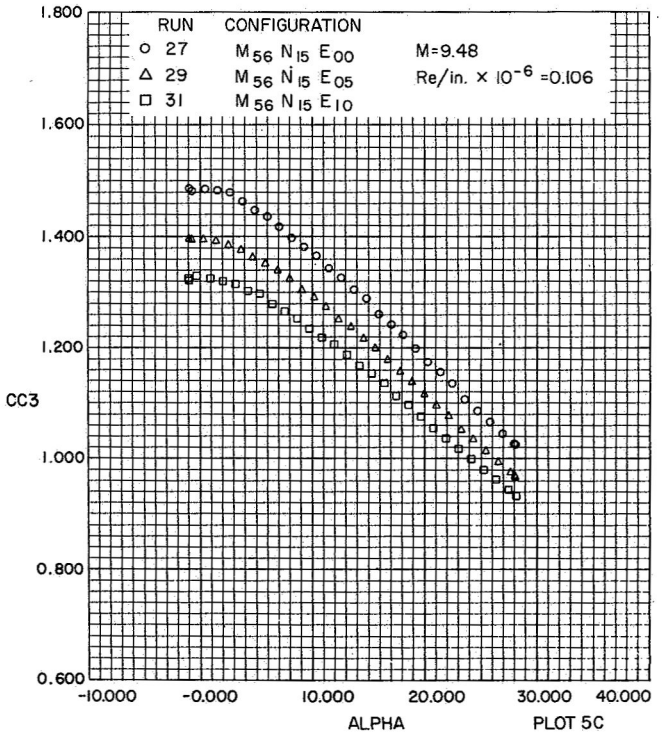
PLOT 4 E

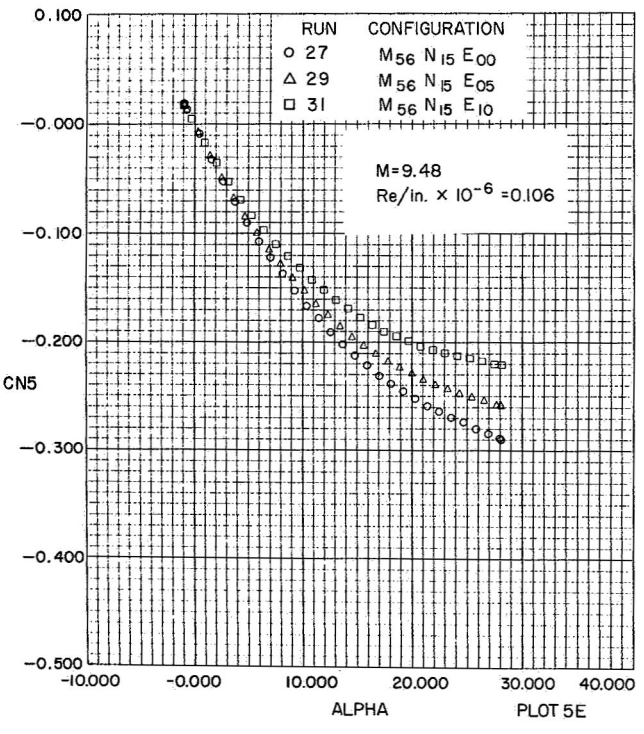

RUN CONFIGURATION
o 16 M56 N10 E05 M=9.50
Δ 22 M56 N10 E10 Re/in. × 10⁻⁶ =0.106
1.800
1.600
1.400
1.200
1.000
0.800
0.600
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 4F

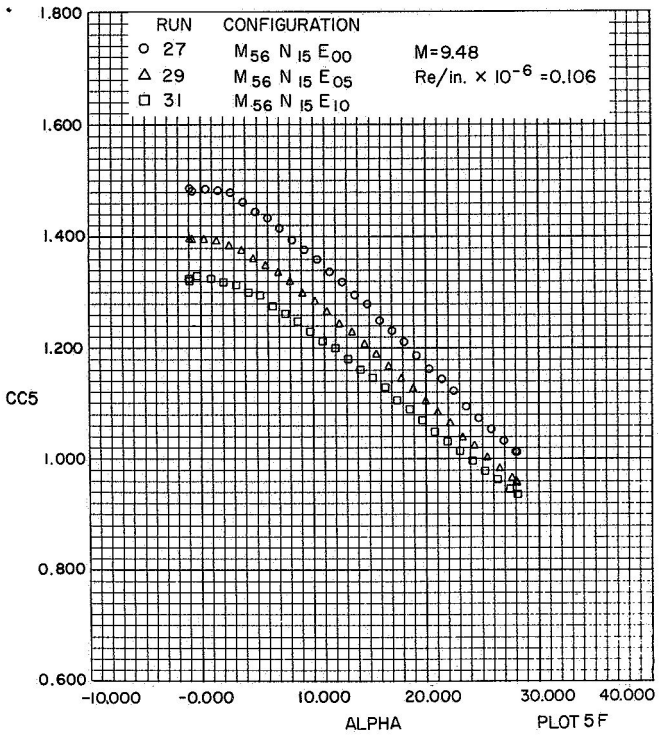

RUN CONFIGURATION
o 16 M56 N10 E05 M=9.50
Δ 22 M56 N10 E10 Re/in. × 10⁻⁶ =0.106
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 4H

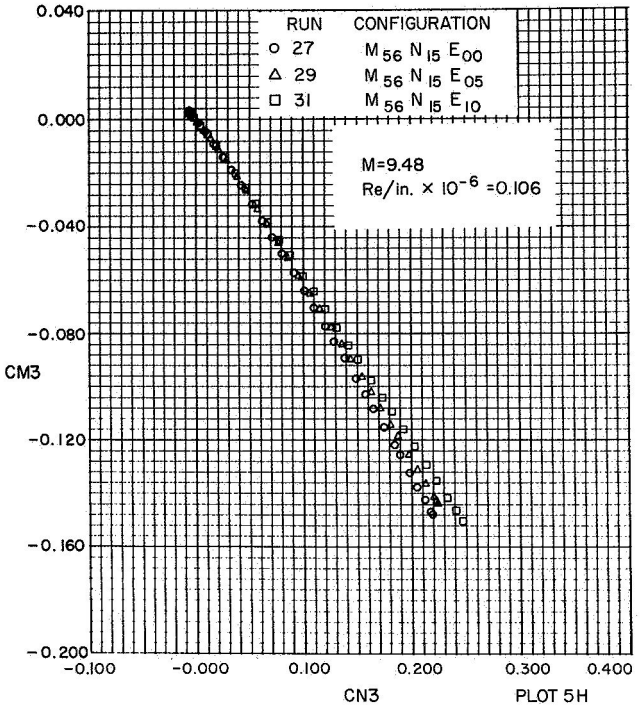

RUN CONFIGURATION
o 27 M56 N15 E00
Δ 29 M56 N15 E05
□ 31 M56 N15 E10
M=9.48
Re/in. × 10⁻⁶ =0.106
CN3
ALPHA
PLOT 5A

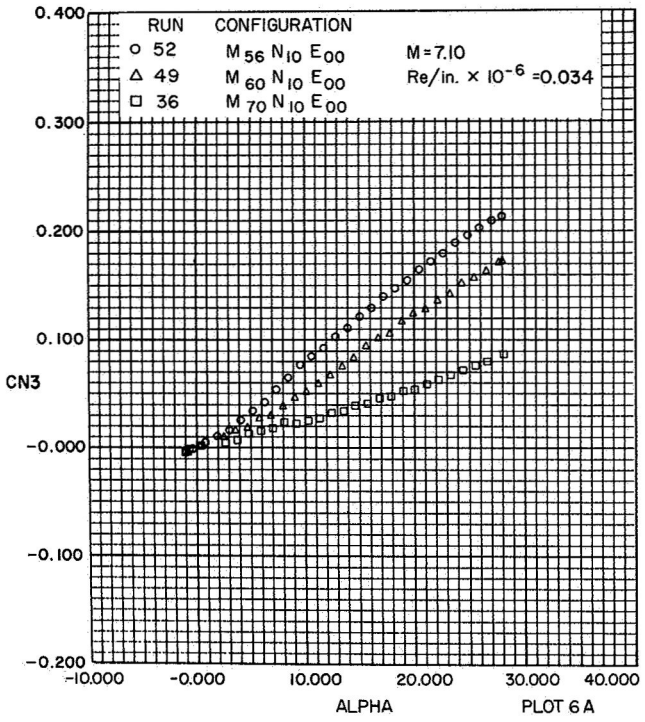

RUN CONFIGURATION
o 27 M56 N15 E00
Δ 29 M56 N15 E05
□ 31 M56 N15 E10
M=9.48
Re/in. × 10⁻⁶ =0.106
CM3
ALPHA
PLOT 5B

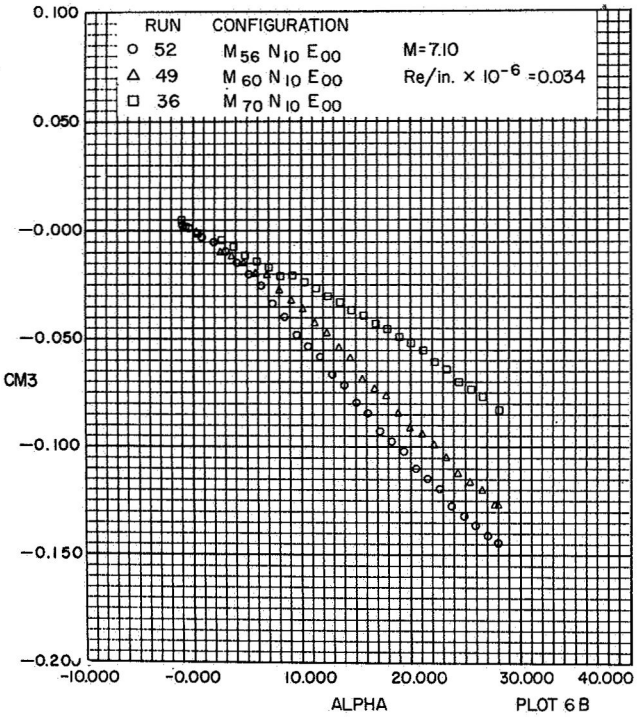

RUN CONFIGURATION
o 27 M56 N15 E00
Δ 29 M56 N15 E05
□ 31 M56 N15 E10
M=9.48
Re/in. × 10⁻⁶ =0.106
CC3
ALPHA
PLOT 5C

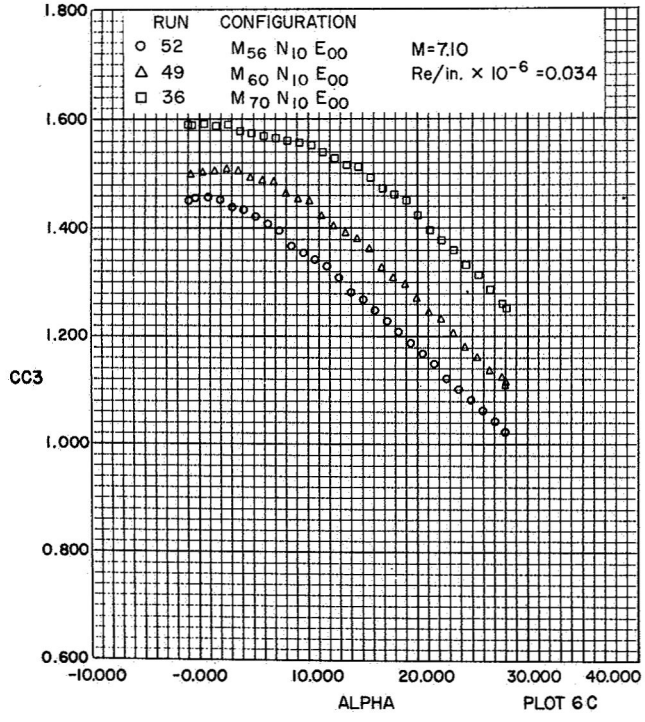

RUN CONFIGURATION
o 27 M56 N15 E00
Δ 29 M56 N15 E05
□ 31 M56 N15 E10
M=9.48
Re/in. × 10⁻⁶ =0.106
CN5
ALPHA
PLOT 5E

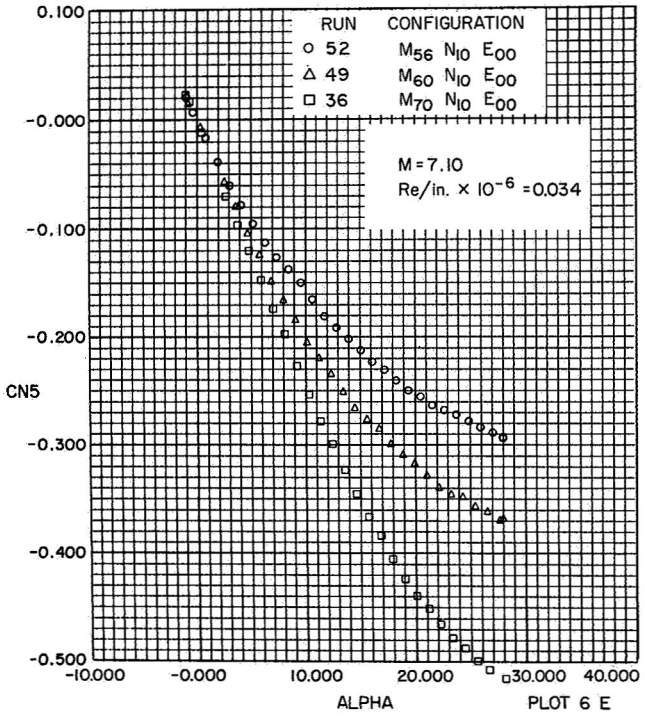

RUN CONFIGURATION
o 27 M56 N15 E00
Δ 29 M56 N15 E05
□ 31 M56 N15 E10
M=9.48
Re/in. × 10⁻⁶ =0.106
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 5F

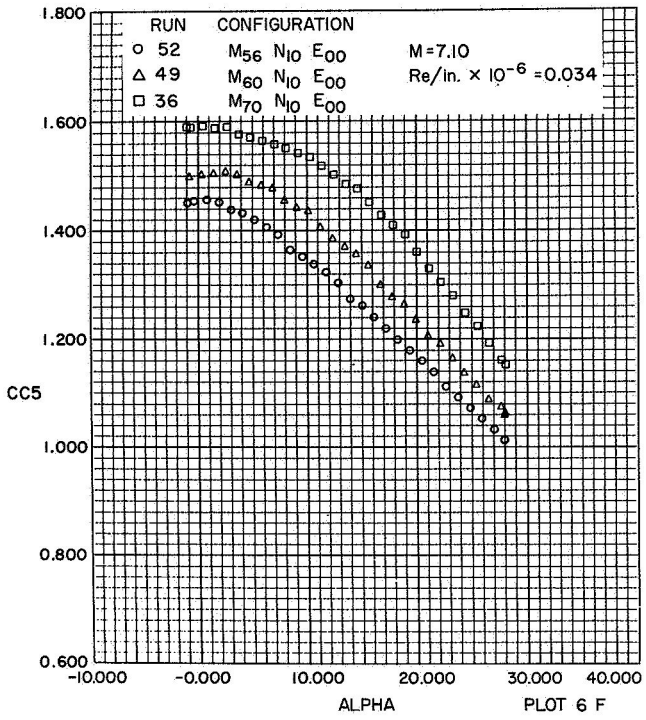

RUN CONFIGURATION
o 27 M56 N15 E00
Δ 29 M56 N15 E05
□ 31 M56 N15 E10
M=9.48
Re/in. × 10⁻⁶ =0.106
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 5H

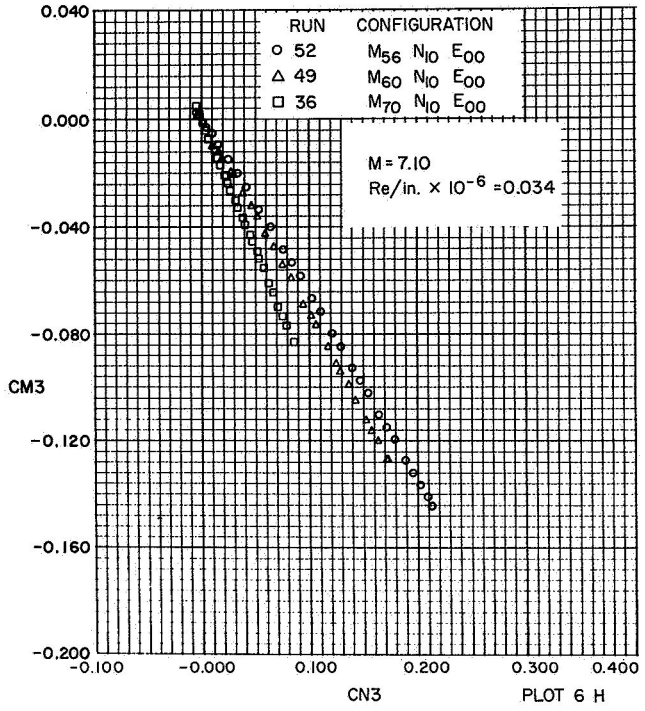

RUN CONFIGURATION
o 52 M_{56} N_{10} E_{00}
Δ 49 M_{60} N_{10} E_{00}
□ 36 M_{70} N_{10} E_{00}
M=7.10
Re/in. × 10^{-6} =0.034
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6 A

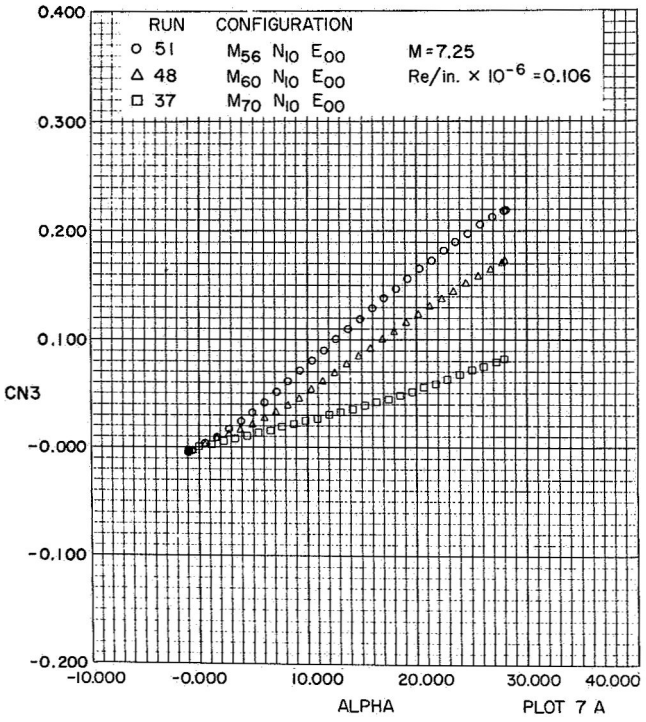

RUN CONFIGURATION
o 52 M_{56} N_{10} E_{00}
Δ 49 M_{60} N_{10} E_{00}
□ 36 M_{70} N_{10} E_{00}
M=7.10
Re/in. × 10^{-6} =0.034
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6 B

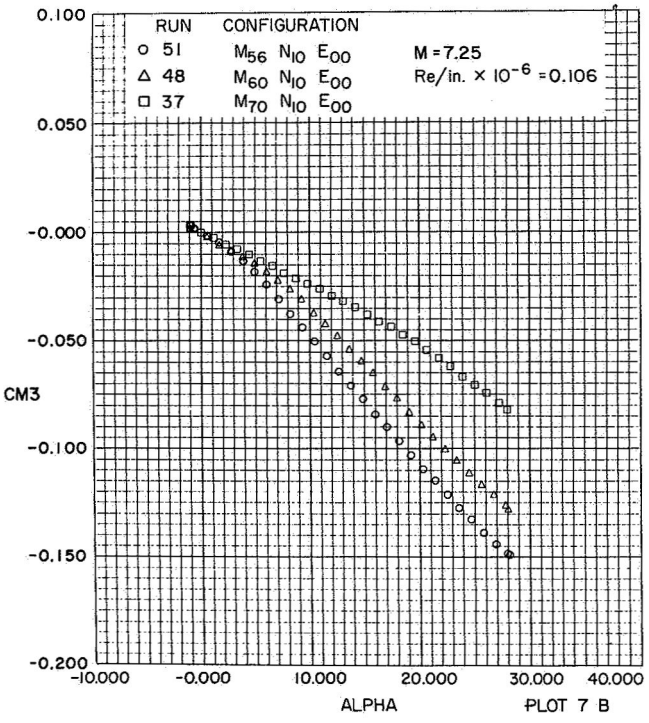

RUN CONFIGURATION
o 52 M_{56} N_{10} E_{00}
Δ 49 M_{60} N_{10} E_{00}
□ 36 M_{70} N_{10} E_{00}
M=7.10
Re/in. × 10^{-6} =0.034
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6 C

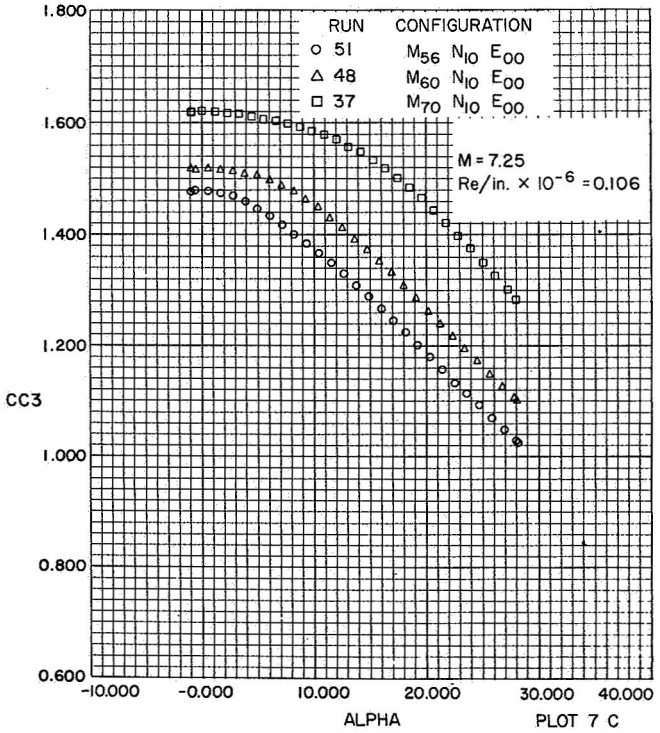

RUN CONFIGURATION
o 52 M_{56} N_{10} E_{00}
Δ 49 M_{60} N_{10} E_{00}
□ 36 M_{70} N_{10} E_{00}
M=7.10
Re/in. × 10^{-6} =0.034
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6 E

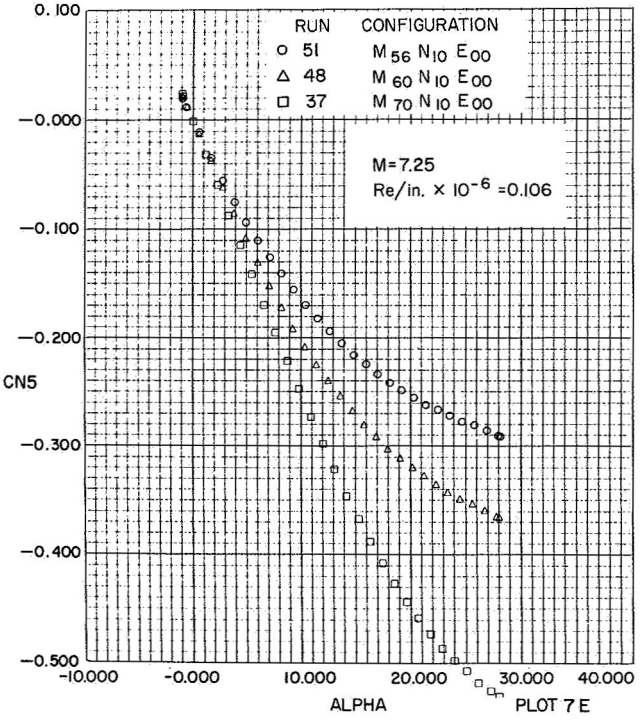

RUN CONFIGURATION
o 52 M56 N10 E00
Δ 49 M60 N10 E00
□ 36 M70 N10 E00
M=7.10
Re/in. × 10-6 =0.034
1.800
1.600
1.400
1.200
1.000
0.800
0.600
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6 F

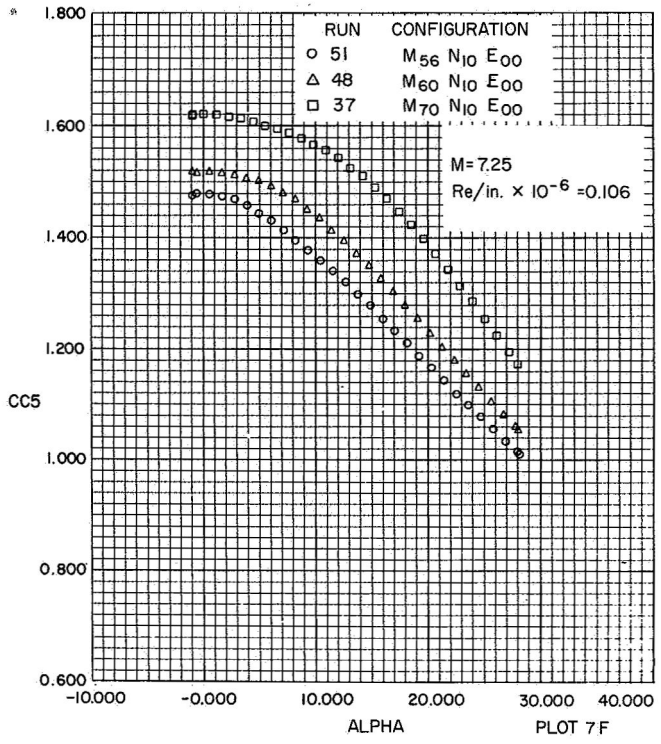

RUN CONFIGURATION
o 52 M56 N10 E00
Δ 49 M60 N10 E00
□ 36 M70 N10 E00
M=7.10
Re/in. × 10-6 =0.034
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 6 H

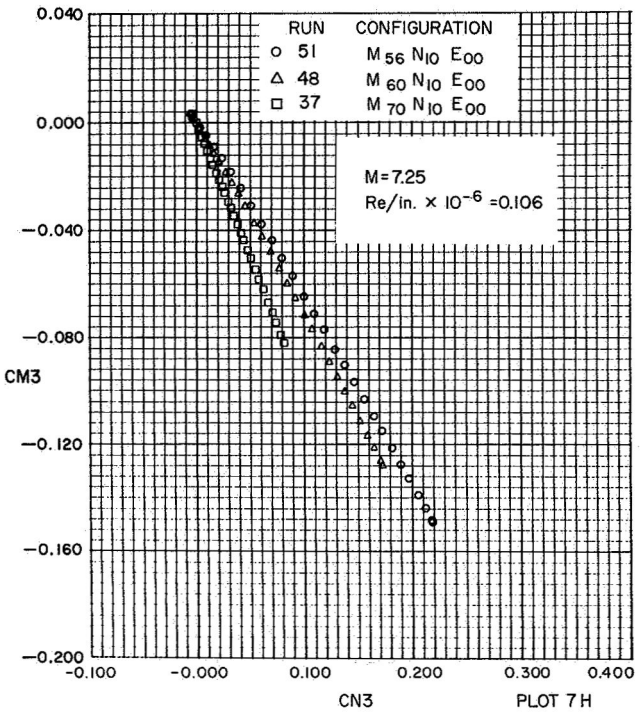

RUN CONFIGURATION
o 51 M_{56} N_{10} E_{00}
Δ 48 M_{60} N_{10} E_{00}
□ 37 M_{70} N_{10} E_{00}
M=7.25
Re/in. × 10^{-6} =0.106
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 7 A

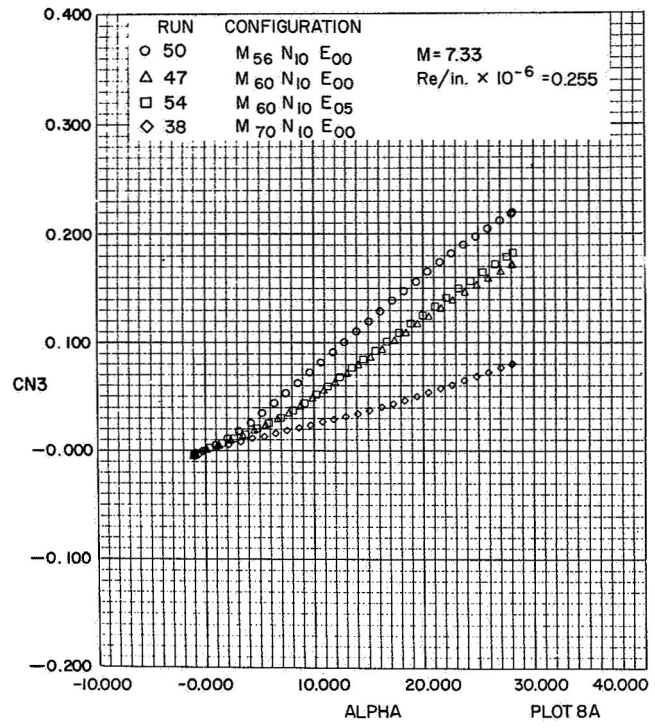

RUN CONFIGURATION
o 51 M_{56} N_{10} E_{00}
Δ 48 M_{60} N_{10} E_{00}
□ 37 M_{70} N_{10} E_{00}
M=7.25
Re/in. × 10^{-6} =0.106
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 7 B

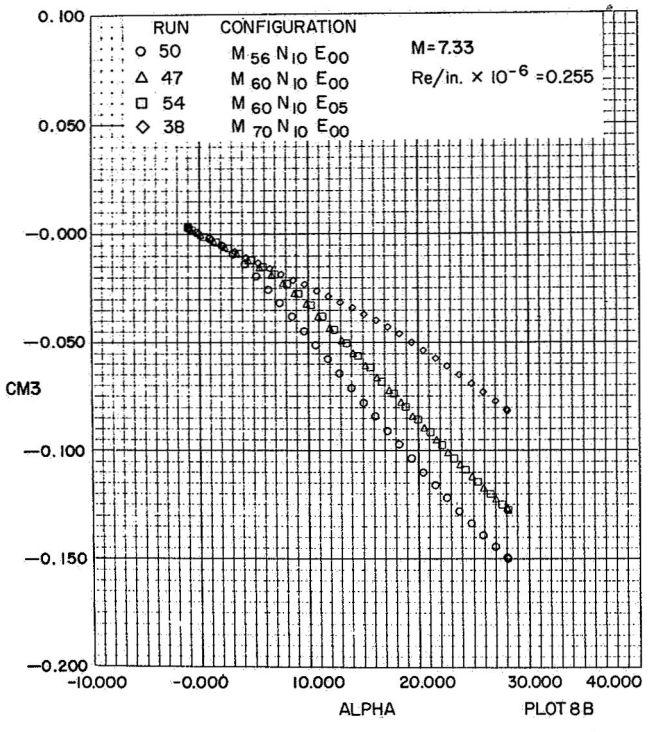

RUN CONFIGURATION
o 51 M_{56} N_{10} E_{00}
Δ 48 M_{60} N_{10} E_{00}
□ 37 M_{70} N_{10} E_{00}
M=7.25
Re/in. × 10^{-6} =0.106
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 7 C

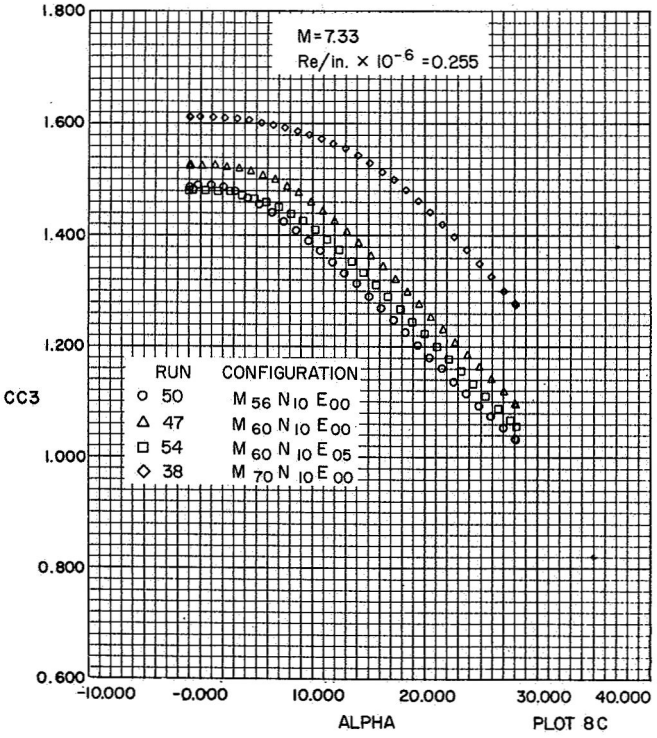

RUN CONFIGURATION
o 51 M 56 N 10 E 00
Δ 48 M 60 N 10 E 00
□ 37 M 70 N 10 E 00
M=7.25
Re/in. × 10^{-6} =0.106
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 7 E

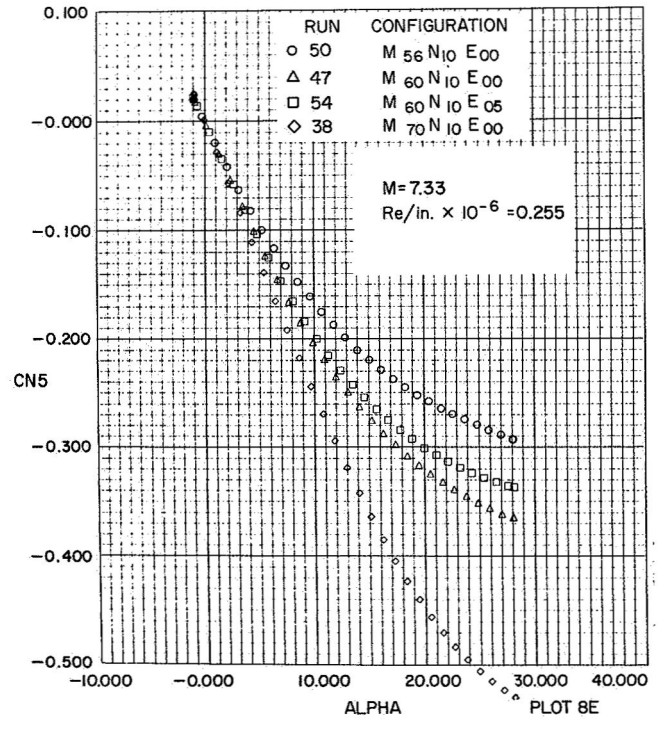

RUN
CONFIGURATION
o 51
M56 N10 E00
Δ 48
M60 N10 E00
□ 37
M70 N10 E00
M=7.25
Re/in. × 10⁻⁶ =0.106
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 7F

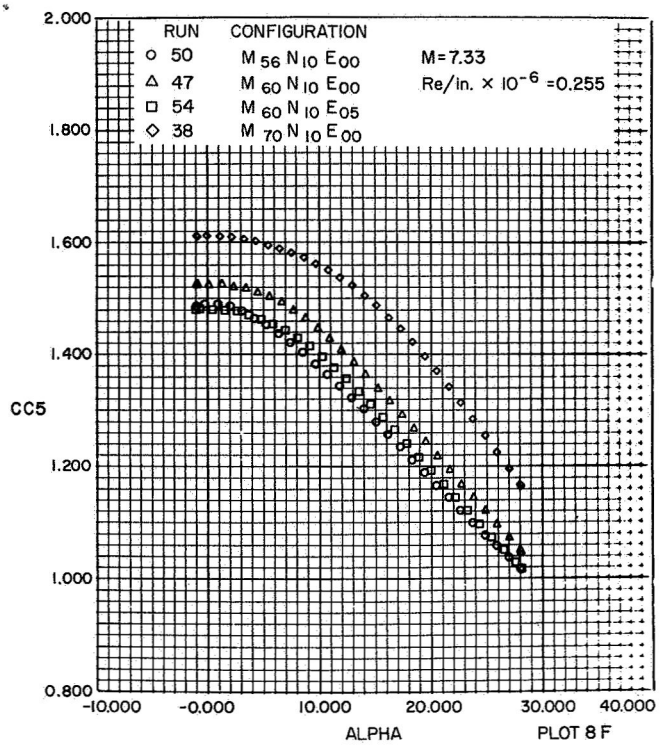

RUN
CONFIGURATION
o 51
M56 N10 E00
Δ 48
M60 N10 E00
□ 37
M70 N10 E00
M=7.25
Re/in. × 10⁻⁶ =0.106
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 7H

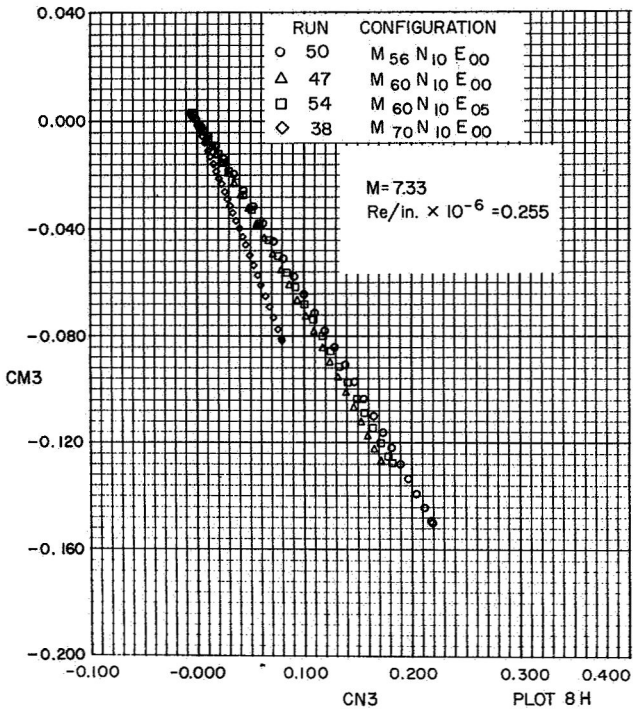

RUN CONFIGURATION
○ 50 M 56 N 10 E 00
△ 47 M 60 N 10 E 00
□ 54 M 60 N 10 E 05
◇ 38 M 70 N 10 E 00
M=7.33
Re/in. × 10⁻⁶ =0.255
CN3
ALPHA
PLOT 8A

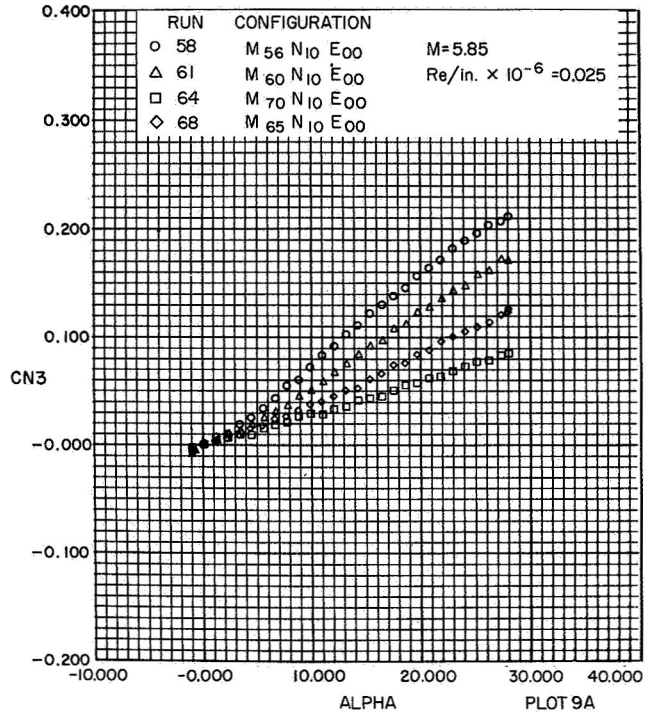

RUN CONFIGURATION
○ 50 M 56 N 10 E 00
△ 47 M 60 N 10 E 00
□ 54 M 60 N 10 E 05
◇ 38 M 70 N 10 E 00
M=7.33
Re/in. × 10⁻⁶ =0.255
CM3
ALPHA
PLOT 8B


M=7.33
Re/in. × 10⁻⁶ =0.255
RUN CONFIGURATION
○ 50 M 56 N 10 E 00
△ 47 M 60 N 10 E 00
□ 54 M 60 N 10 E 05
◇ 38 M 70 N 10 E 00
CC3
ALPHA
PLOT 8C

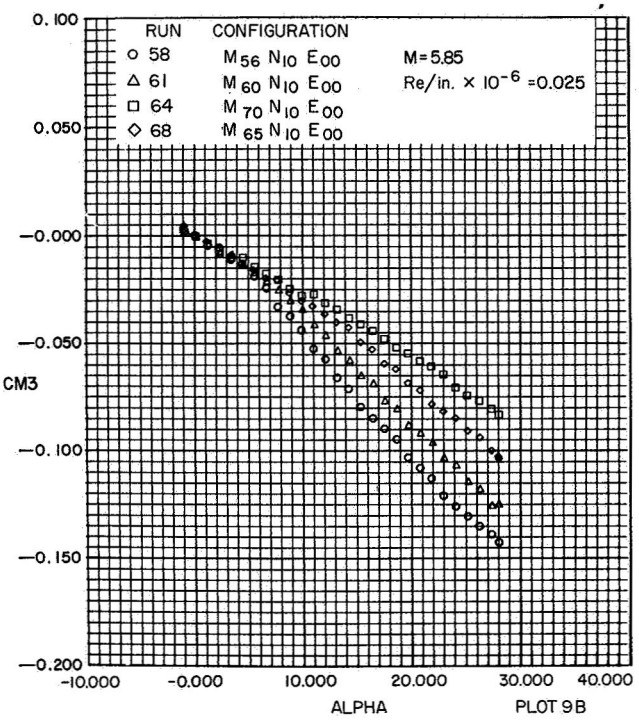

RUN CONFIGURATION
○ 50 M 56 N 10 E 00
△ 47 M 60 N 10 E 00
□ 54 M 60 N 10 E 05
◇ 38 M 70 N 10 E 00
M=7.33
Re/in. × 10⁻⁶ =0.255
CN5
ALPHA
PLOT 8E


RUN
CONFIGURATION
50
M 56 N 10 E 00
47
M 60 N 10 E 00
54
M 60 N 10 E 05
38
M 70 N 10 E 00
M=7.33
Re/in. × 10-6 =0.255
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 8 F

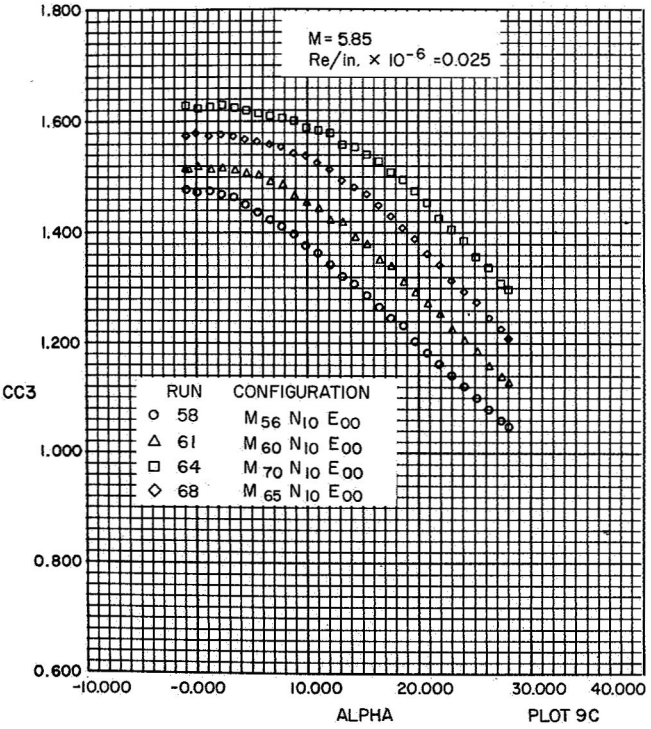

RUN
CONFIGURATION
50
M 56 N 10 E 00
47
M 60 N 10 E 00
54
M 60 N 10 E 05
38
M 70 N 10 E 00
M=7.33
Re/in. × 10-6 =0.255
0.040
0.000
-0.040
-0.080
-0.120
-0. 160
-0.200
CM3
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 8 H



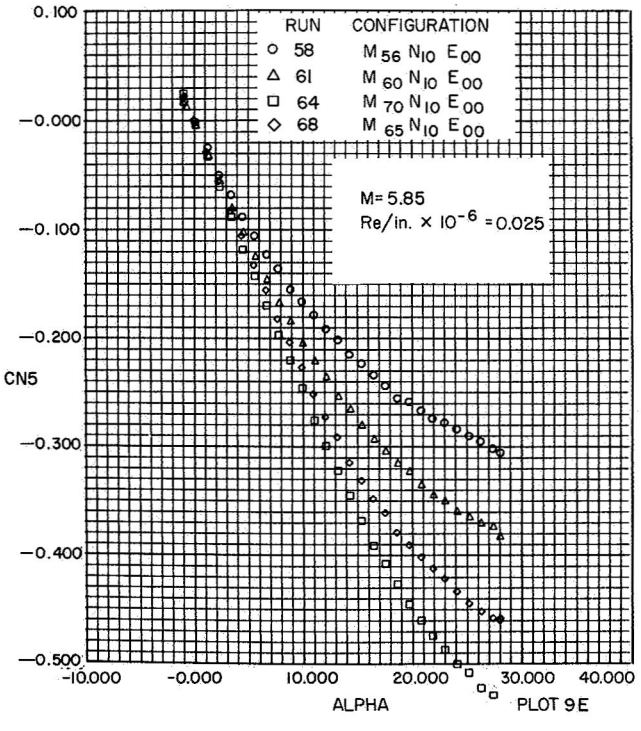
PLOT 9A



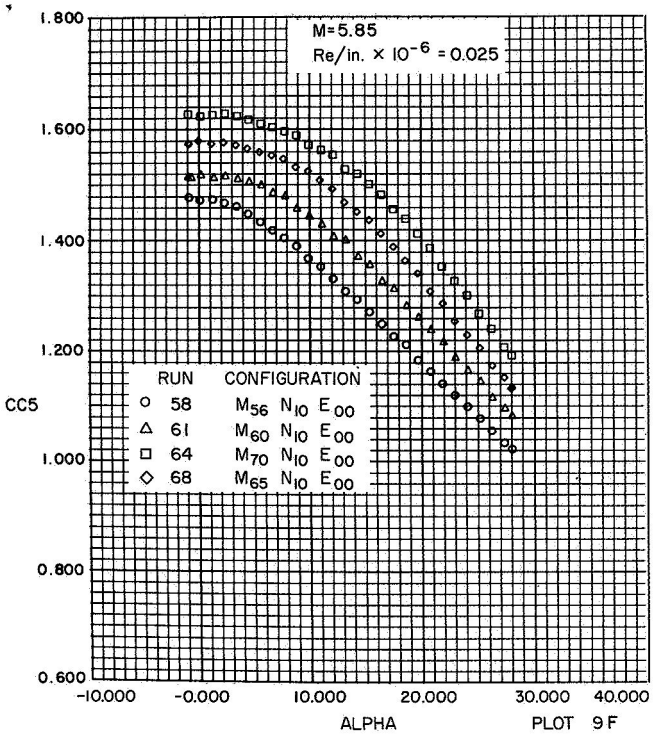
PLOT 9B

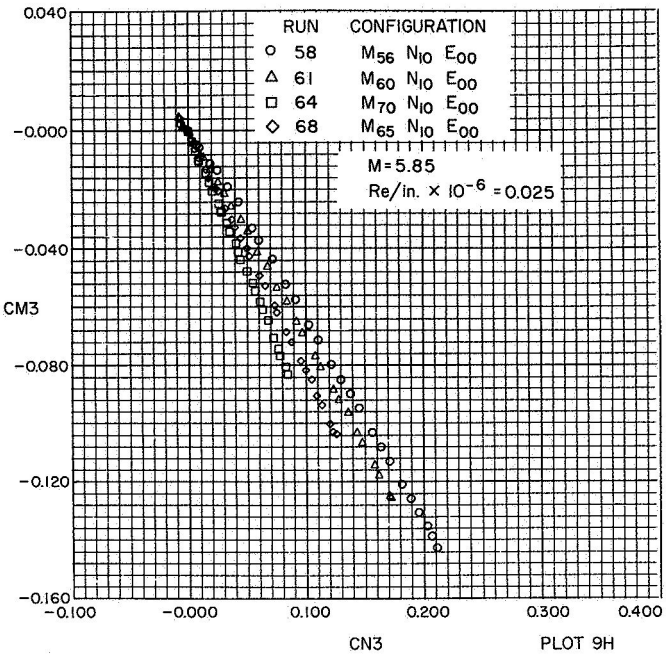


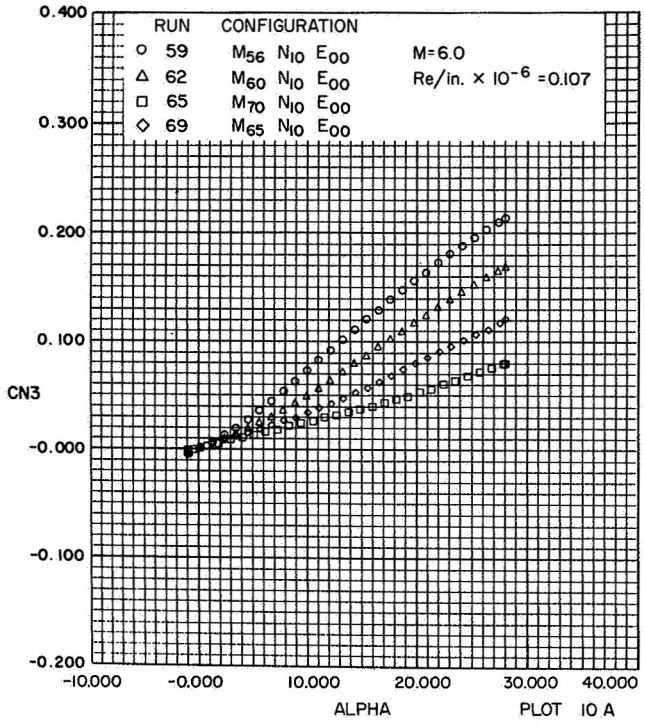
PLOT 9C

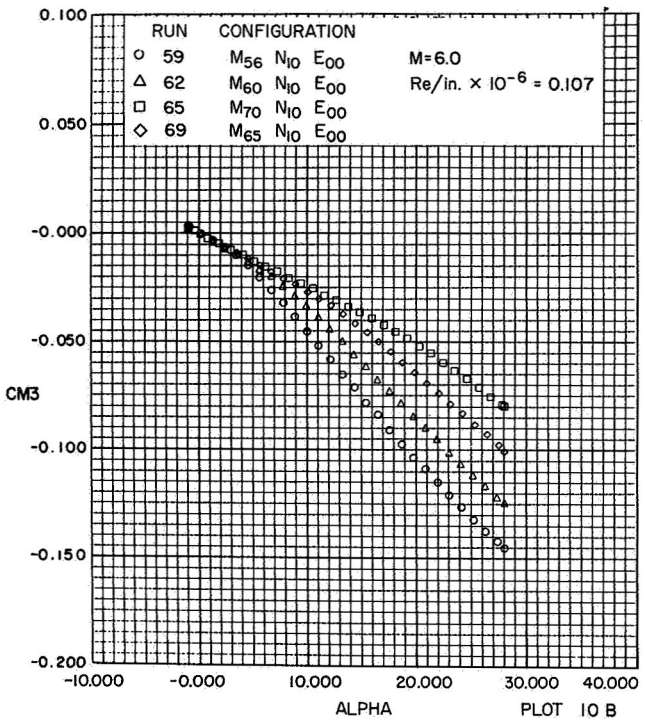


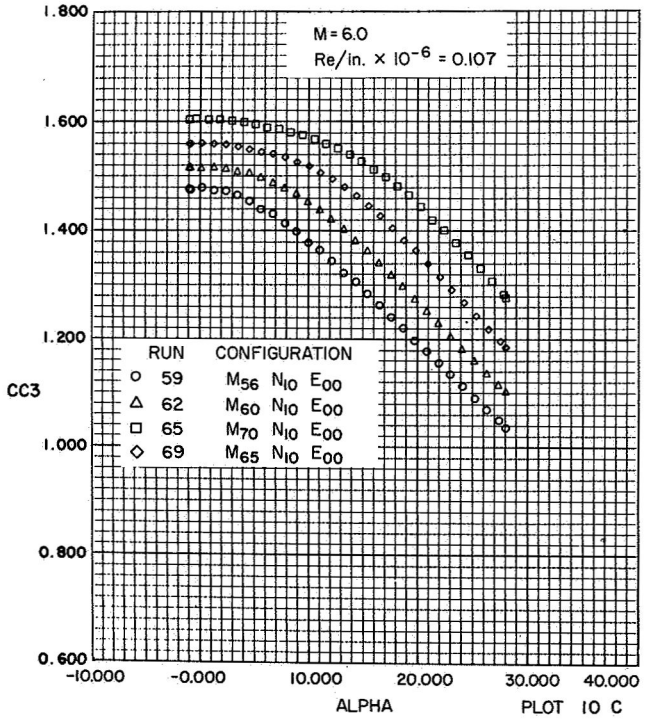
PLOT 9E

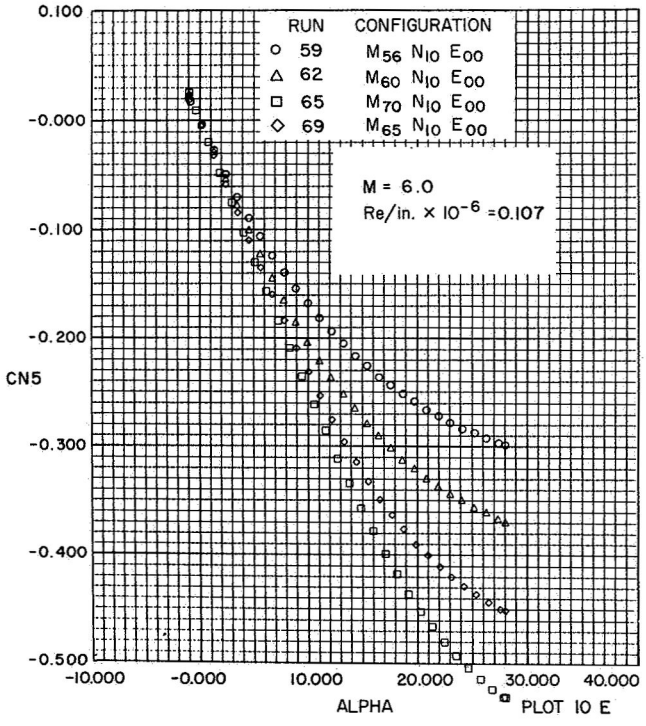

M=5.85
Re/in. × 10⁻⁶ = 0.025
RUN CONFIGURATION
○ 58 M56 N10 E00
△ 61 M60 N10 E00
□ 64 M70 N10 E00
◇ 68 M65 N10 E00
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 9F

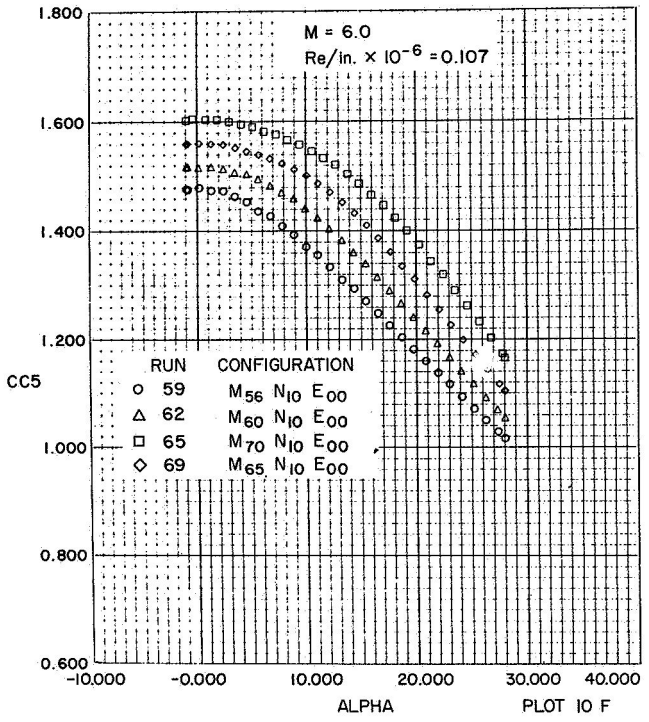

RUN CONFIGURATION
○ 58 M56 N10 E00
△ 61 M60 N10 E00
□ 64 M70 N10 E00
◇ 68 M65 N10 E00
M=5.85
Re/in. × 10⁻⁶ = 0.025
CM3
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 9H

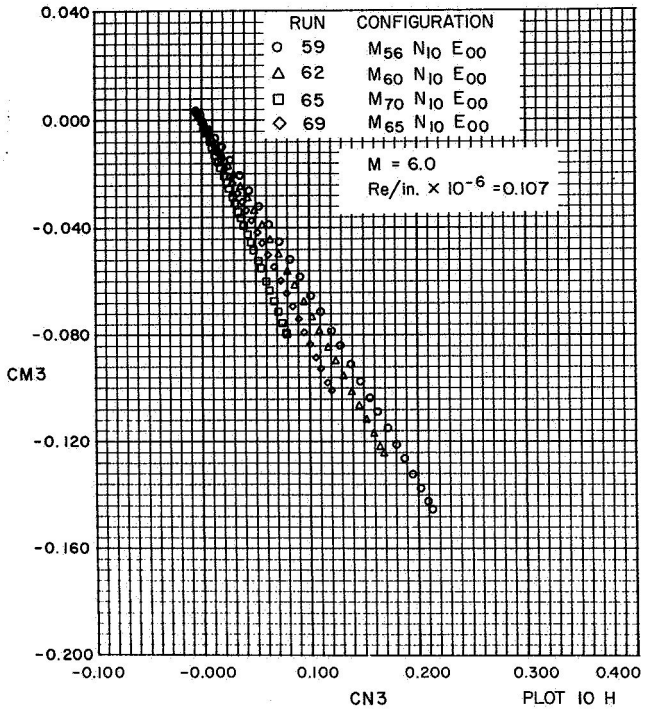

RUN CONFIGURATION
59 M56 N10 E00
62 M60 N10 E00
65 M70 N10 E00
69 M65 N10 E00
M=6.0
Re/in. × 10-6 =0.107
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 10 A

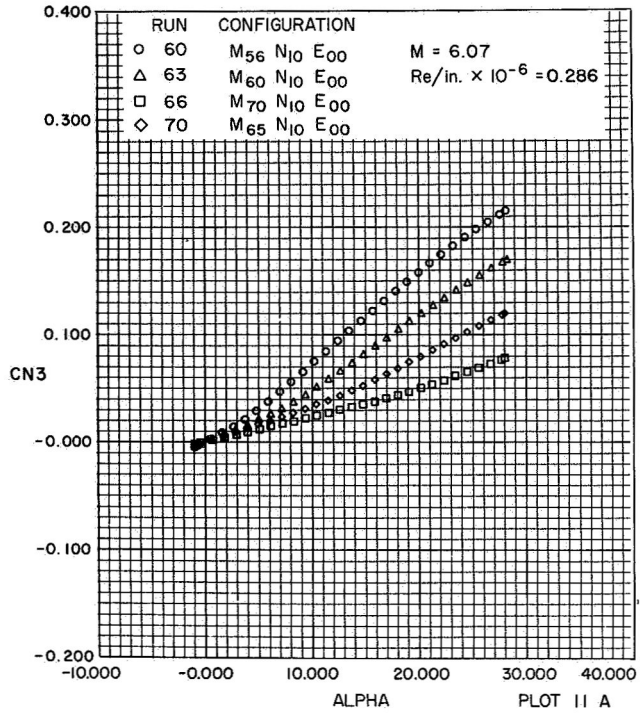

RUN CONFIGURATION
59 M56 N10 E00
62 M60 N10 E00
65 M70 N10 E00
69 M65 N10 E00
M=6.0
Re/in. × 10-6 = 0.107
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 10 B

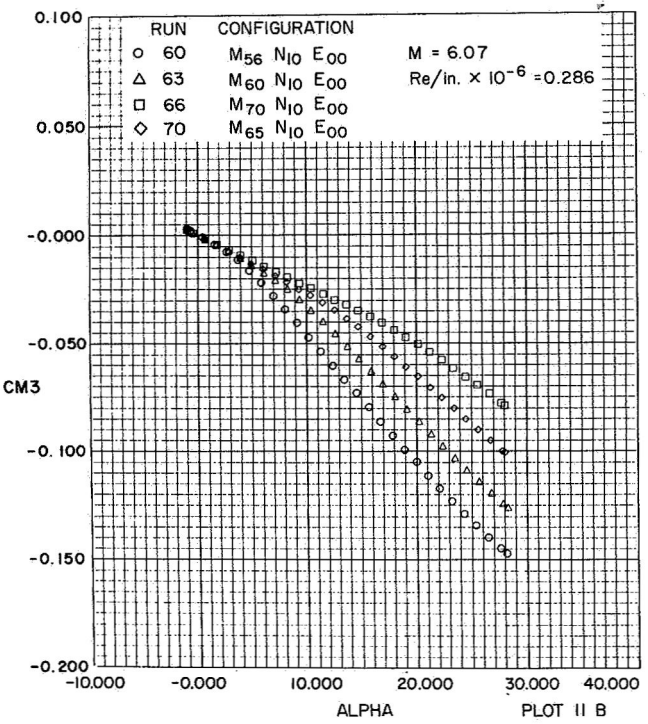

M=6.0
Re/in. × 10-6 = 0.107
RUN CONFIGURATION
59 M56 N10 E00
62 M60 N10 E00
65 M70 N10 E00
69 M65 N10 E00
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 10 C

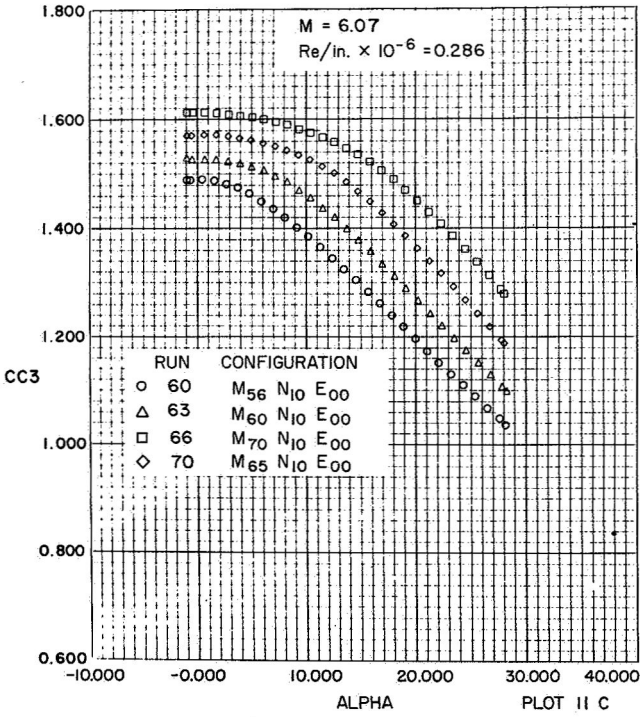

RUN CONFIGURATION
59 M56 N10 E00
62 M60 N10 E00
65 M70 N10 E00
69 M65 N10 E00
M = 6.0
Re/in. × 10-6 =0.107
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 10 E

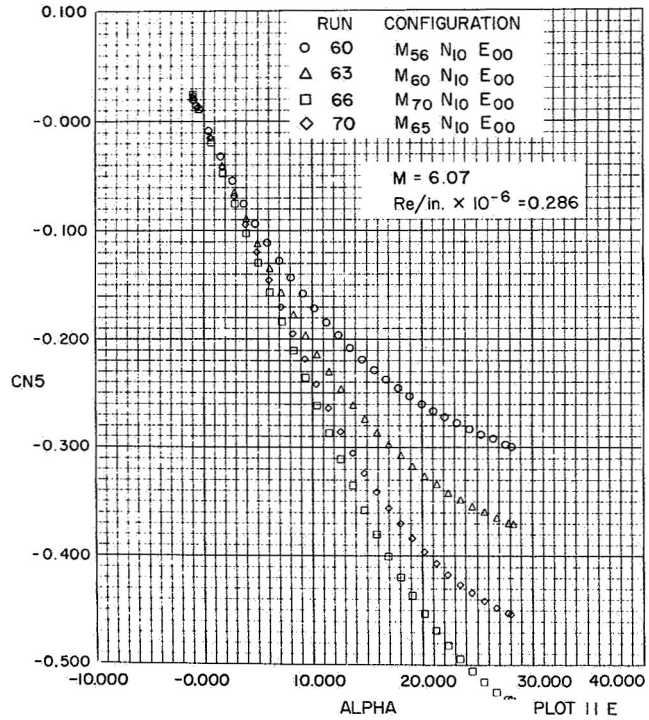

M = 6.0
Re/in. × 10⁻⁶ = 0.107
RUN CONFIGURATION
○ 59 M56 N10 E00
△ 62 M60 N10 E00
□ 65 M70 N10 E00
◇ 69 M65 N10 E00
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 10 F

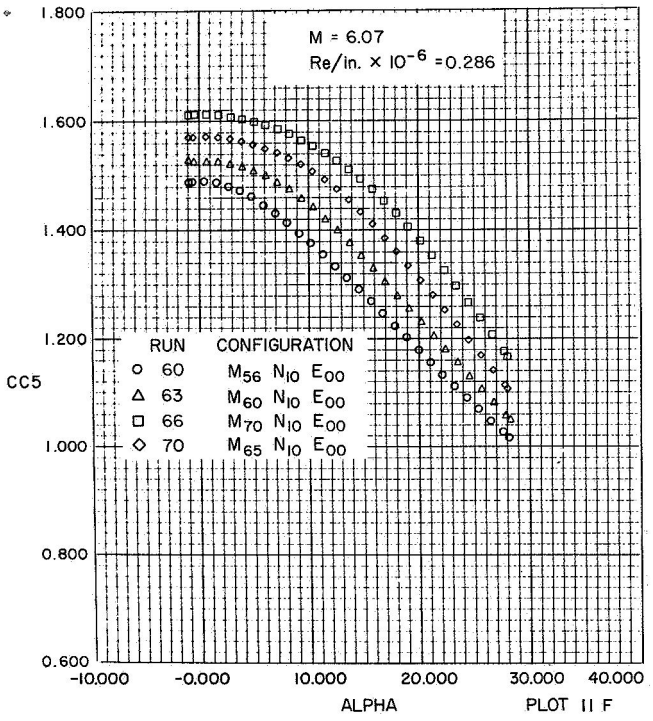

RUN CONFIGURATION
○ 59 M56 N10 E00
△ 62 M60 N10 E00
□ 65 M70 N10 E00
◇ 69 M65 N10 E00
M = 6.0
Re/in. × 10⁻⁶ = 0.107
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 10 H

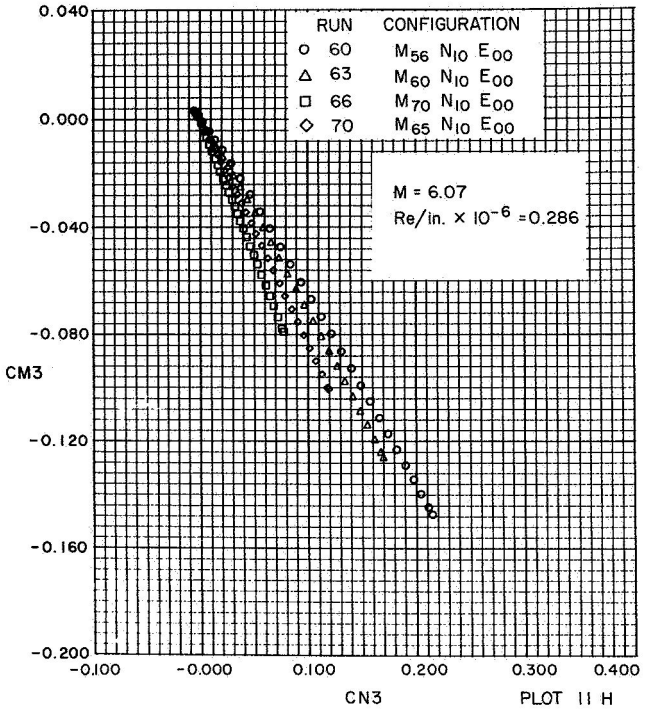

RUN CONFIGURATION
o 60 M_{56} N_{10} E_{00}
Δ 63 M_{60} N_{10} E_{00}
□ 66 M_{70} N_{10} E_{00}
◇ 70 M_{65} N_{10} E_{00}
M = 6.07
Re/in. × 10^{-6} =0.286
CN3
ALPHA
PLOT II A

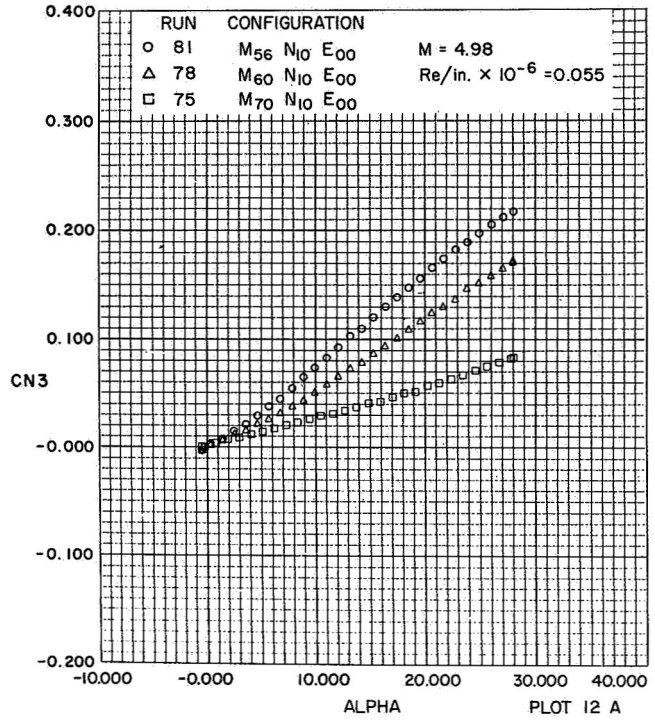

RUN CONFIGURATION
o 60 M_{56} N_{10} E_{00}
Δ 63 M_{60} N_{10} E_{00}
□ 66 M_{70} N_{10} E_{00}
◇ 70 M_{65} N_{10} E_{00}
M = 6.07
Re/in. × 10^{-6} =0.286
CM3
ALPHA
PLOT II B

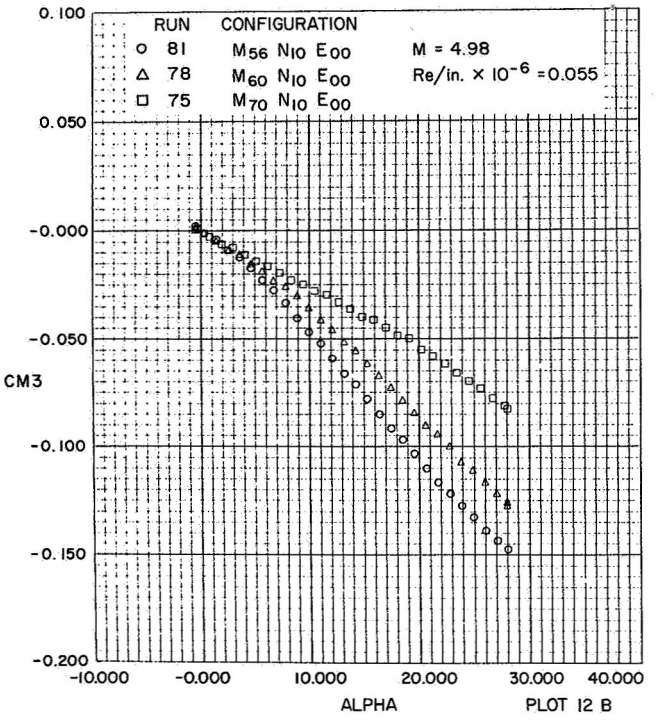

M = 6.07
Re/in. × 10^{-6} =0.286
RUN CONFIGURATION
o 60 M_{56} N_{10} E_{00}
Δ 63 M_{60} N_{10} E_{00}
□ 66 M_{70} N_{10} E_{00}
◇ 70 M_{65} N_{10} E_{00}
CC3
ALPHA
PLOT II C

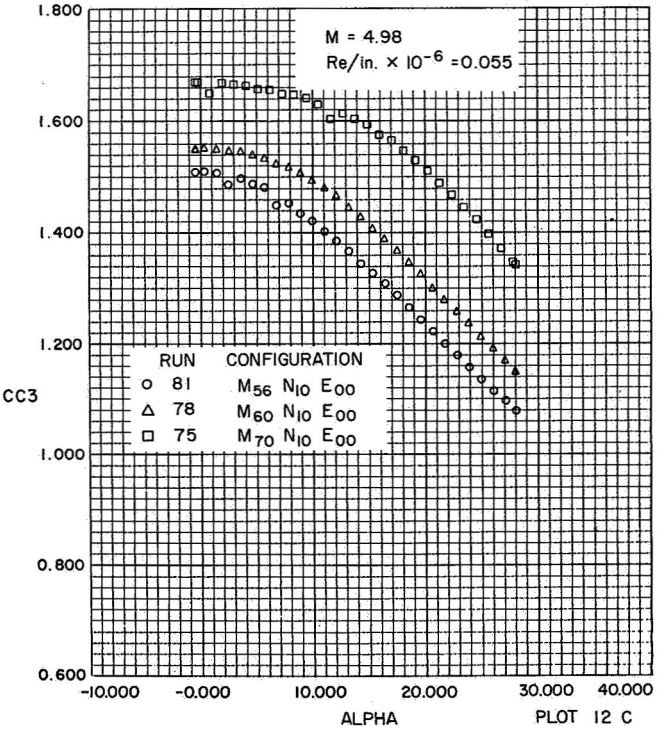

RUN CONFIGURATION
o 60 M_{56} N_{10} E_{00}
Δ 63 M_{60} N_{10} E_{00}
□ 66 M_{70} N_{10} E_{00}
◇ 70 M_{65} N_{10} E_{00}
M = 6.07
Re/in. × 10^{-6} =0.286
CN5
ALPHA
PLOT II E

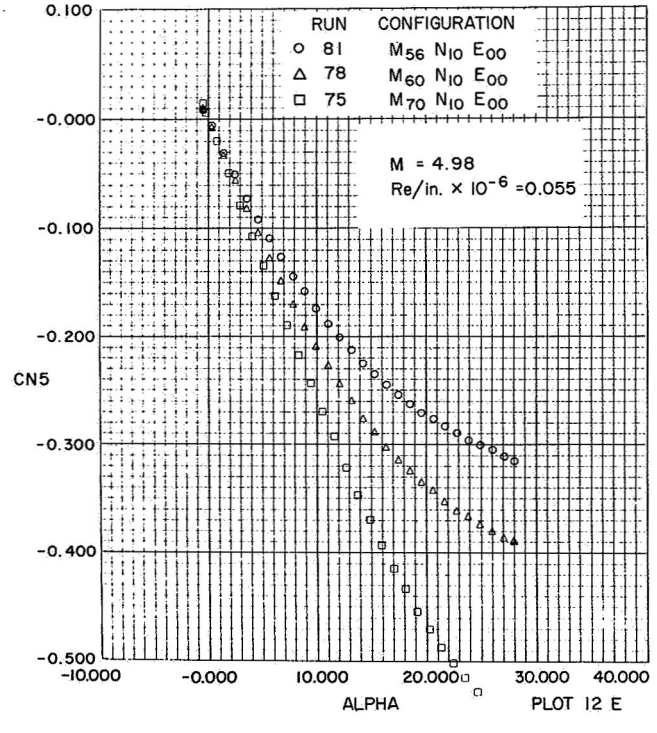

M = 6.07
Re/in. × 10⁻⁶ =0.286
RUN CONFIGURATION
○ 60 M56 N10 E00
△ 63 M60 N10 E00
□ 66 M70 N10 E00
◇ 70 M65 N10 E00
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT II F

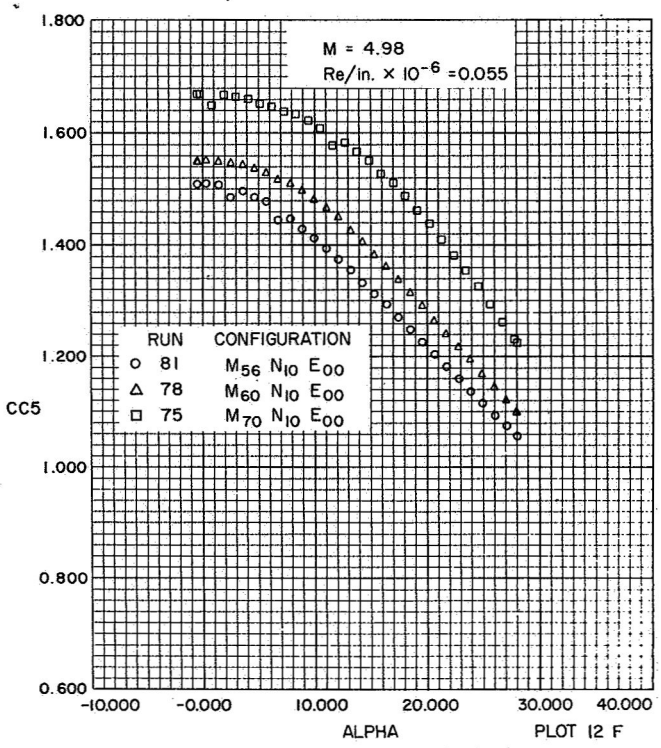

RUN CONFIGURATION
○ 60 M56 N10 E00
△ 63 M60 N10 E00
□ 66 M70 N10 E00
◇ 70 M65 N10 E00
M = 6.07
Re/in. × 10⁻⁶ =0.286
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT II H

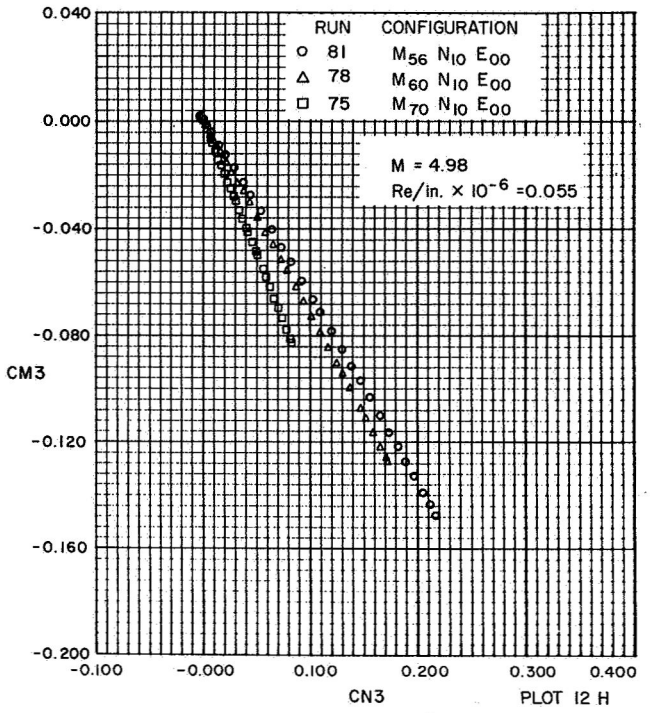

RUN CONFIGURATION
o 81 M56 N10 E00
Δ 78 M60 N10 E00
□ 75 M70 N10 E00
M = 4.98
Re/in. × 10-6 =0.055
CN3
ALPHA
PLOT 12 A

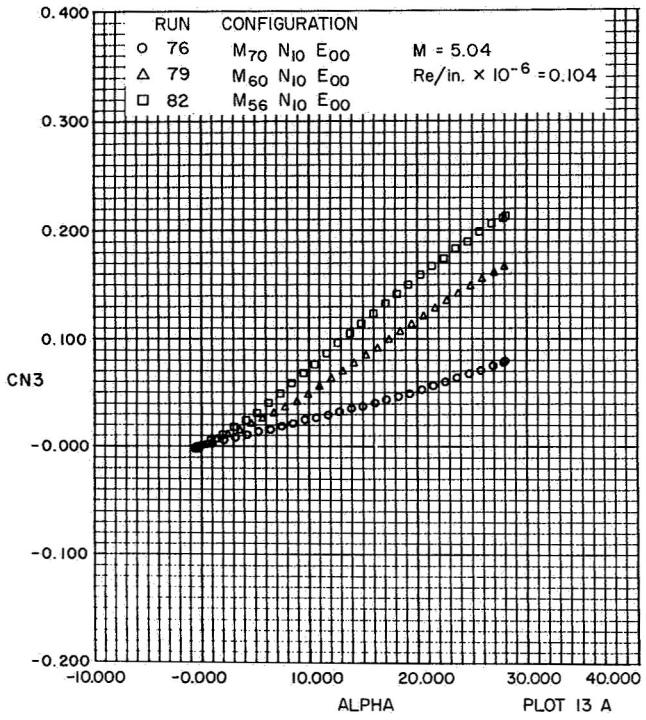

RUN CONFIGURATION
o 81 M56 N10 E00
Δ 78 M60 N10 E00
□ 75 M70 N10 E00
M = 4.98
Re/in. × 10-6 =0.055
CM3
ALPHA
PLOT 12 B

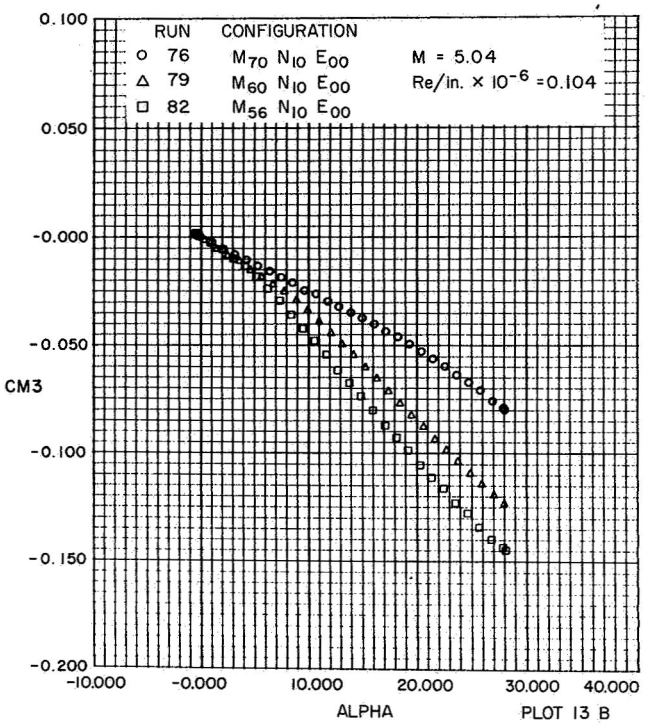

M = 4.98
Re/in. × 10-6 =0.055
RUN CONFIGURATION
o 81 M56 N10 E00
Δ 78 M60 N10 E00
□ 75 M70 N10 E00
CC3
ALPHA
PLOT 12 C

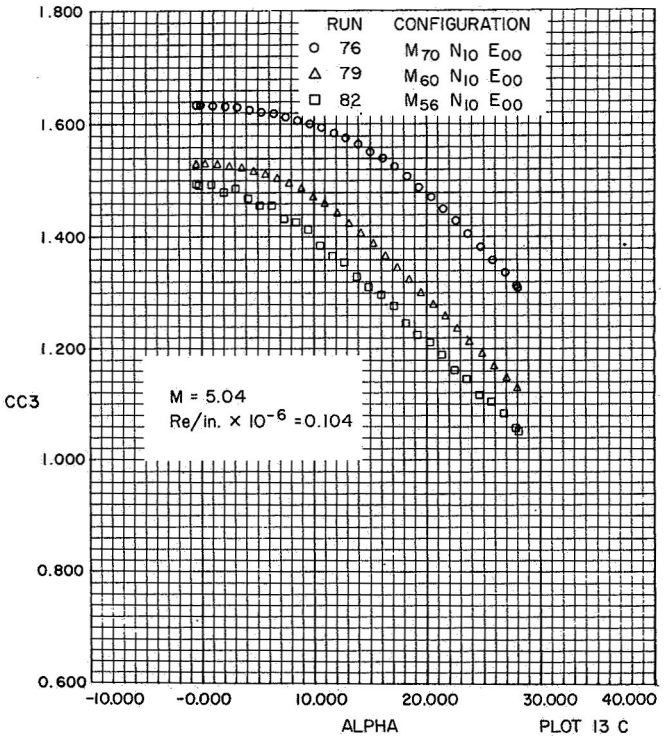

RUN CONFIGURATION
o 81 M56 N10 E00
Δ 78 M60 N10 E00
□ 75 M70 N10 E00
M = 4.98
Re/in. × 10-6 =0.055
CN5
ALPHA
PLOT 12 E

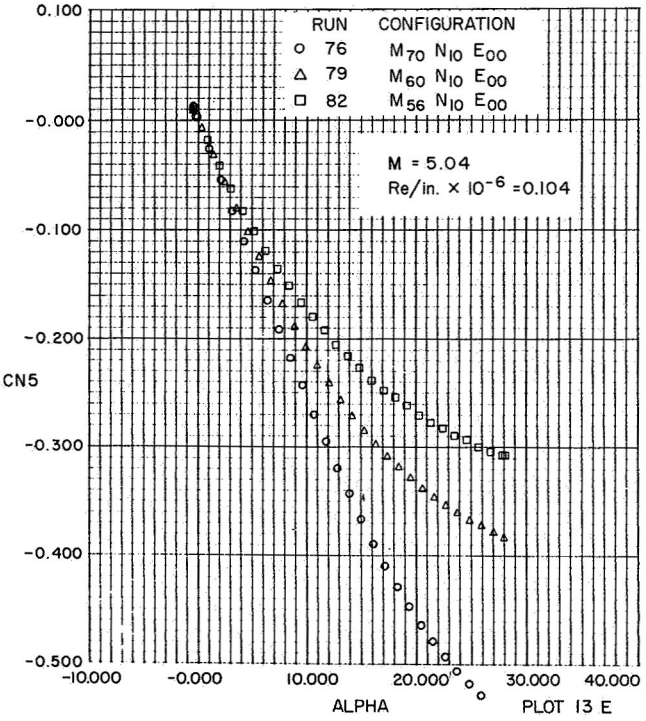

M = 4.98
Re/in. × 10⁻⁶ =0.055
RUN CONFIGURATION
o 81 M56 N10 E00
Δ 78 M60 N10 E00
□ 75 M70 N10 E00
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 12 F

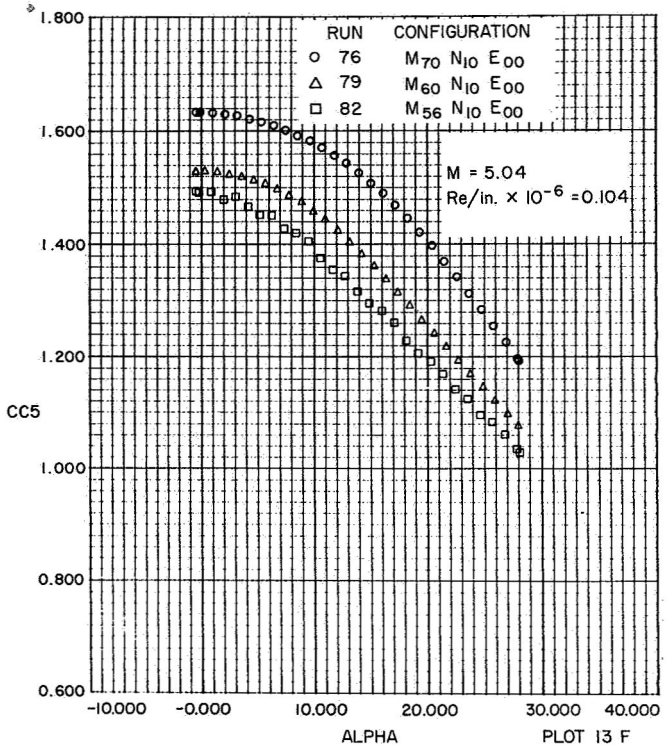

RUN CONFIGURATION
o 81 M56 N10 E00
Δ 78 M60 N10 E00
□ 75 M70 N10 E00
M = 4.98
Re/in. × 10⁻⁶ =0.055
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 12 H

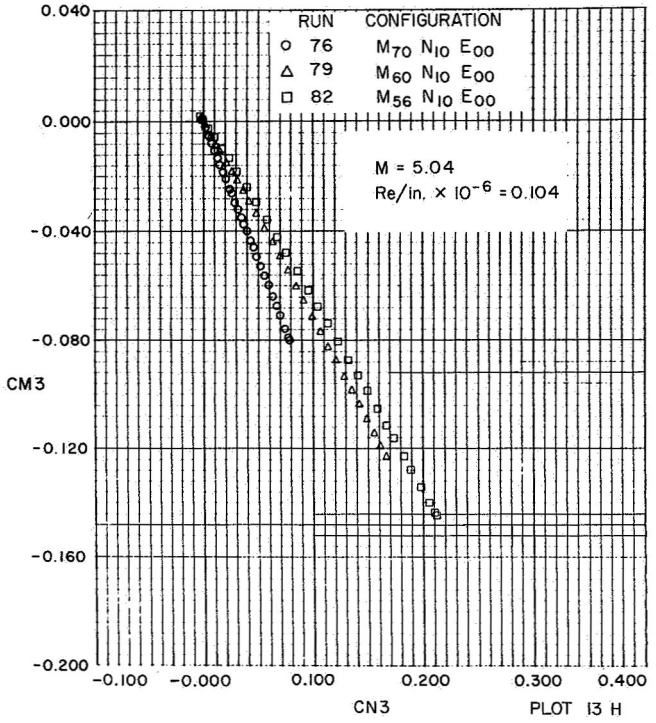

RUN CONFIGURATION
o 76 M70 N10 E00
Δ 79 M60 N10 E00
□ 82 M56 N10 E00
M = 5.04
Re/in. × 10-6 =0.104
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 A

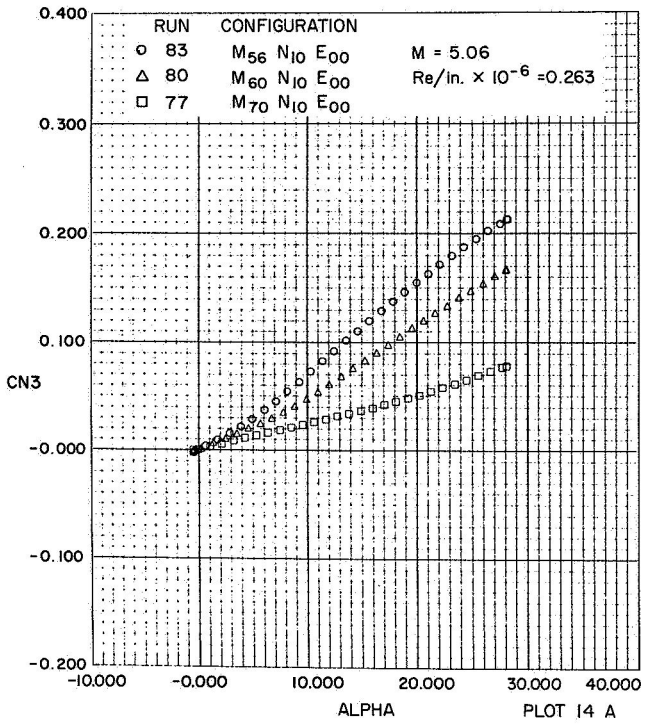

RUN CONFIGURATION
o 76 M70 N10 E00
Δ 79 M60 N10 E00
□ 82 M56 N10 E00
M = 5.04
Re/in. × 10-6 =0.104
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 B

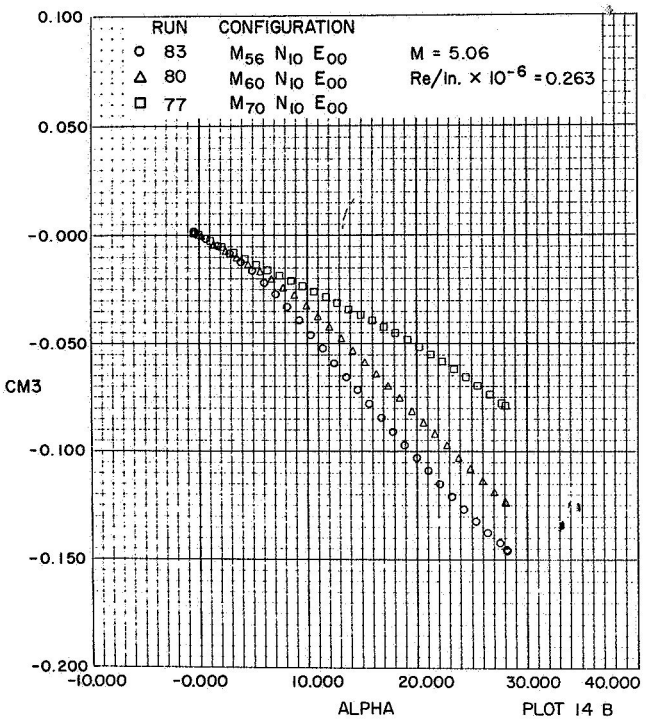

RUN CONFIGURATION
o 76 M70 N10 E00
Δ 79 M60 N10 E00
□ 82 M56 N10 E00
M = 5.04
Re/in. × 10-6 =0.104
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 C

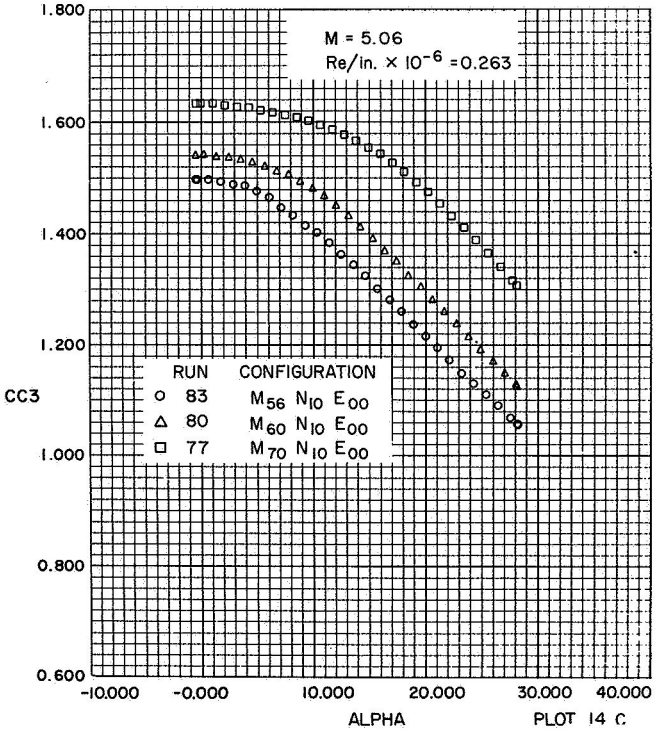

RUN CONFIGURATION
o 76 M70 N10 E00
Δ 79 M60 N10 E00
□ 82 M56 N10 E00
M = 5.04
Re/in. × 10-6 =0.104
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 E

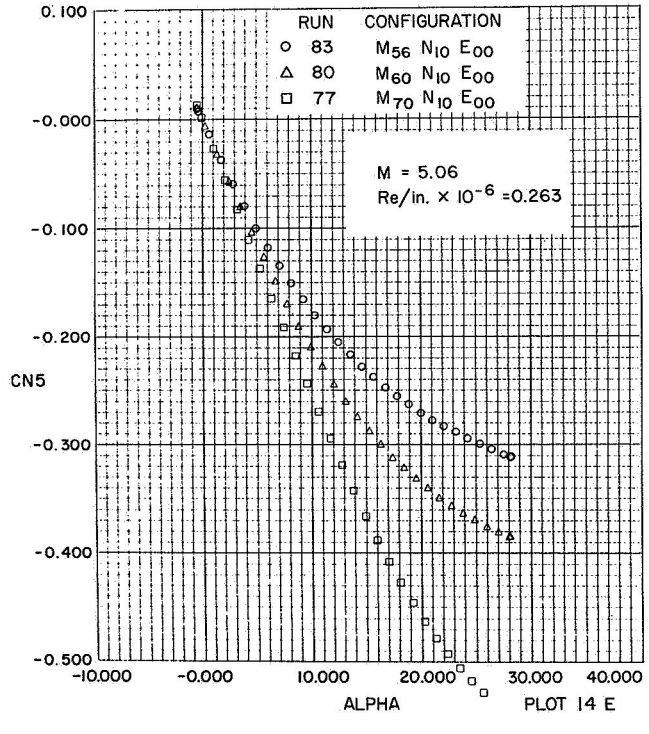

RUN CONFIGURATION
o 76 M70 N10 E00
Δ 79 M60 N10 E00
□ 82 M56 N10 E00
M = 5.04
Re/in. × 10⁻⁶ = 0.104
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 13 F

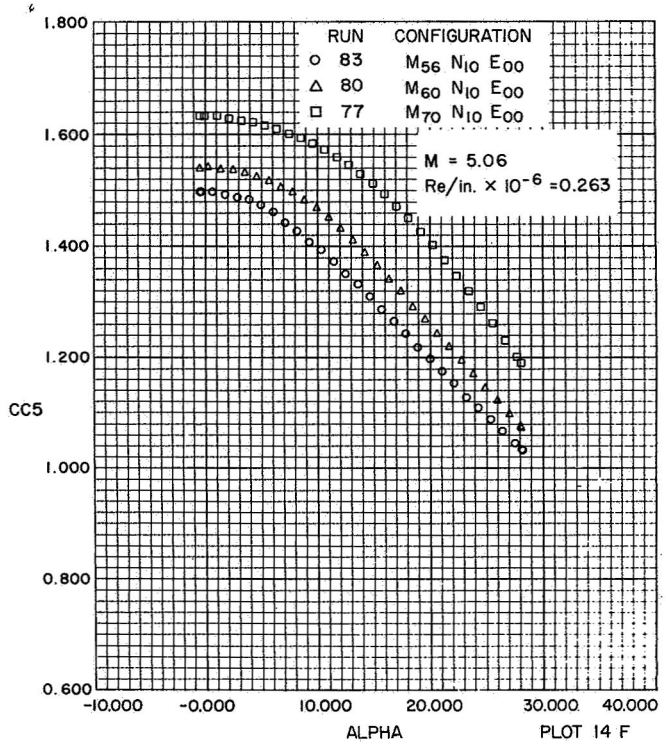

RUN CONFIGURATION
o 76 M70 N10 E00
Δ 79 M60 N10 E00
□ 82 M56 N10 E00
M = 5.04
Re/in. × 10⁻⁶ = 0.104
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 13 H

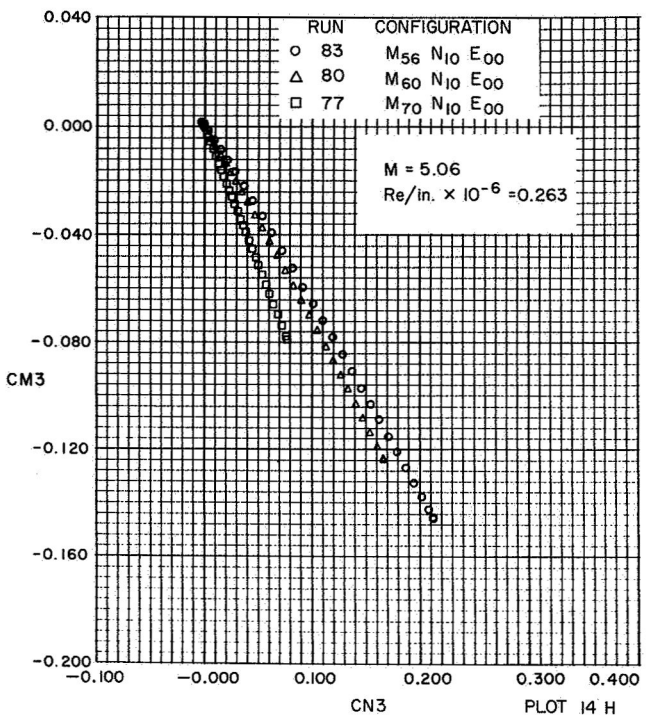

RUN CONFIGURATION
o 83 M_{56} N_{10} E_{00}
Δ 80 M_{60} N_{10} E_{00}
□ 77 M_{70} N_{10} E_{00}
M = 5.06
Re/in. × 10^{-6} =0.263
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 A

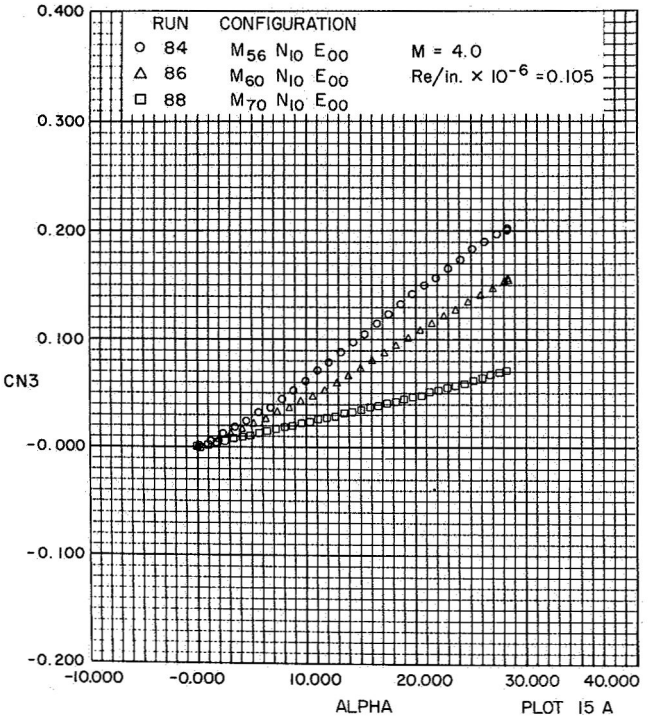

RUN CONFIGURATION
o 83 M_{56} N_{10} E_{00}
Δ 80 M_{60} N_{10} E_{00}
□ 77 M_{70} N_{10} E_{00}
M = 5.06
Re/in. × 10^{-6} =0.263
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 B

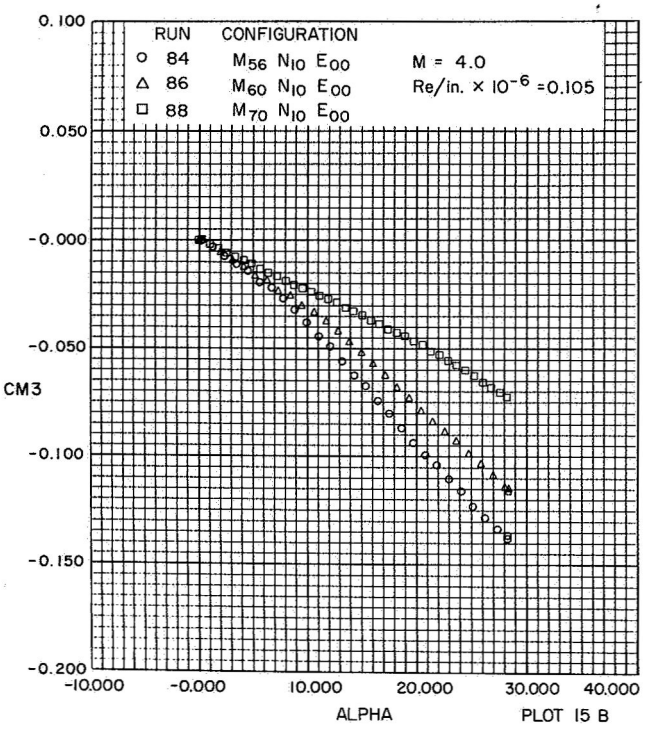

M = 5.06
Re/in. × 10^{-6} =0.263
RUN CONFIGURATION
o 83 M_{56} N_{10} E_{00}
Δ 80 M_{60} N_{10} E_{00}
□ 77 M_{70} N_{10} E_{00}
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 C

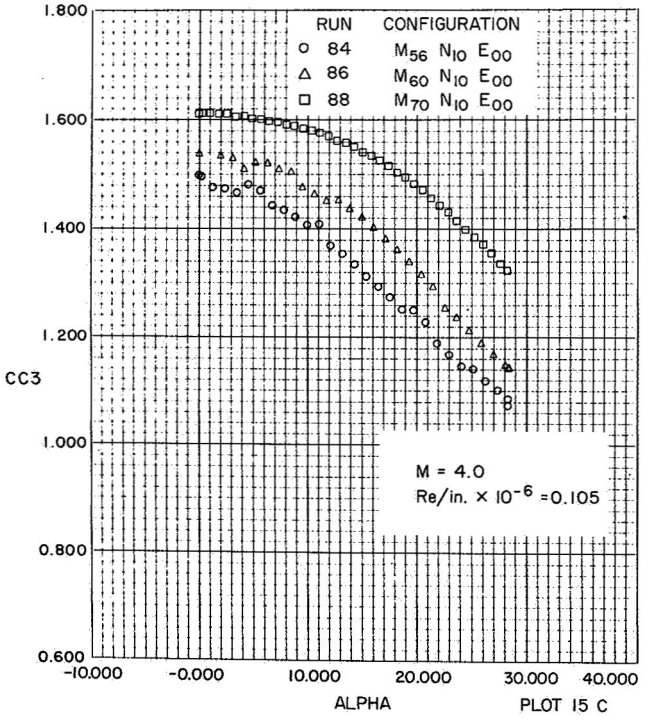

RUN CONFIGURATION
o 83 M_{56} N_{10} E_{00}
Δ 80 M_{60} N_{10} E_{00}
□ 77 M_{70} N_{10} E_{00}
M = 5.06
Re/in. × 10^{-6} =0.263
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 E

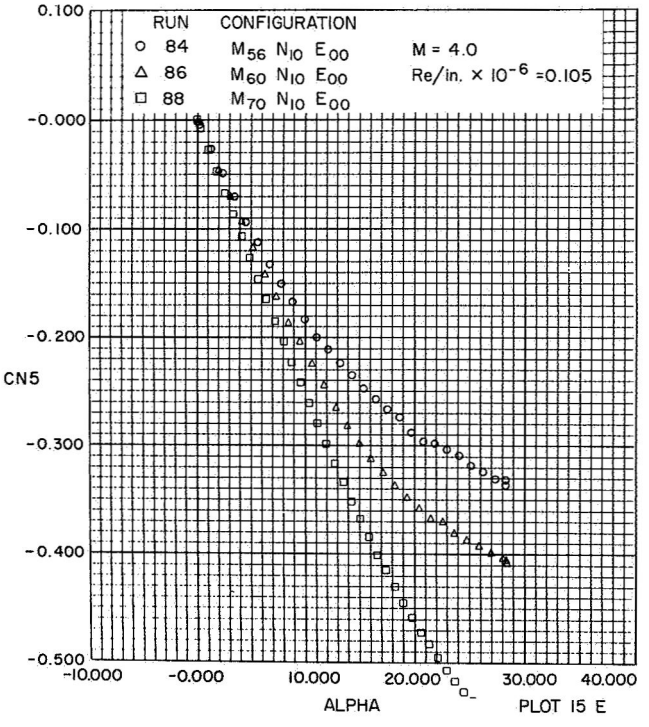

RUN CONFIGURATION
○ 83 M56 N10 E00
△ 80 M60 N10 E00
□ 77 M70 N10 E00
M = 5.06
Re/in. × 10-6 =0.263
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 14 F

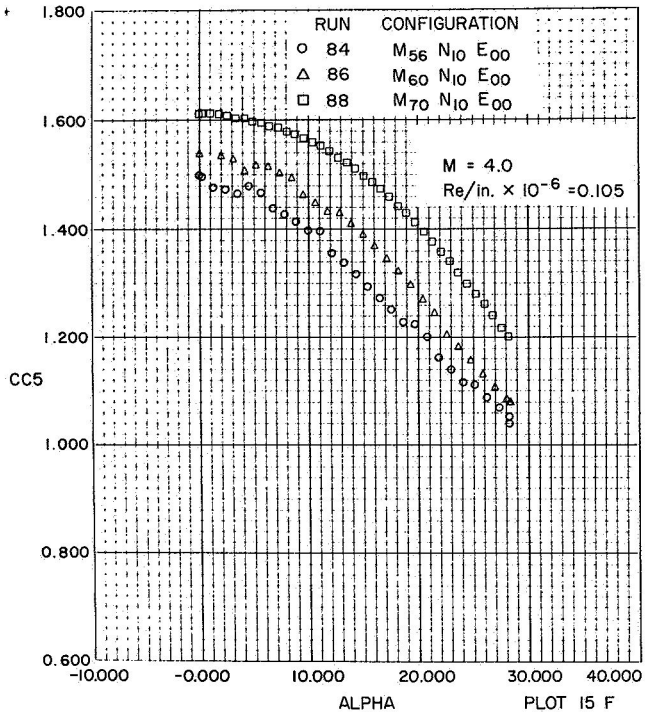

RUN CONFIGURATION
○ 83 M56 N10 E00
△ 80 M60 N10 E00
□ 77 M70 N10 E00
M = 5.06
Re/in. × 10-6 =0.263
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
−0.100
−0.000
0.100
0.200
0.300
0.400
CN3
PLOT 14 H

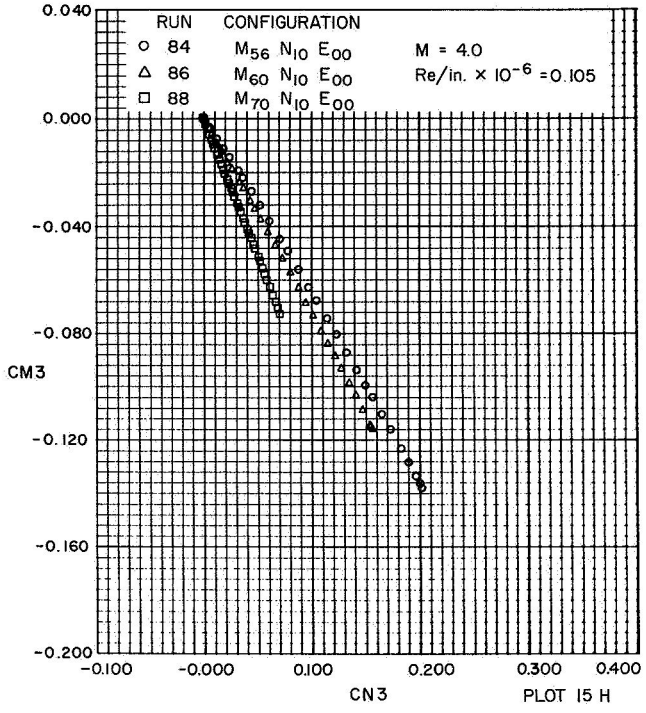

RUN CONFIGURATION
o 84 M_{56} N_{10} E_{00}
Δ 86 M_{60} N_{10} E_{00}
□ 88 M_{70} N_{10} E_{00}
M = 4.0
Re/in. × 10^{-6} =0.105
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15 A

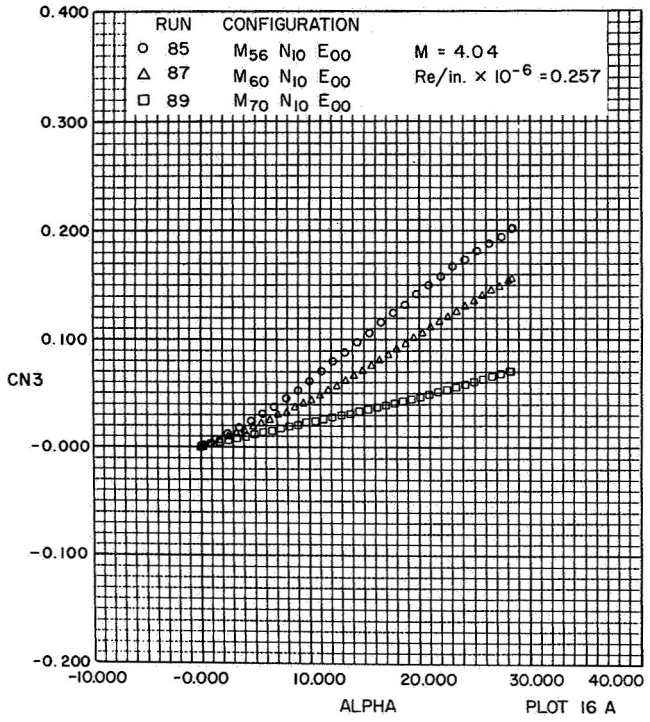

RUN CONFIGURATION
o 84 M_{56} N_{10} E_{00}
Δ 86 M_{60} N_{10} E_{00}
□ 88 M_{70} N_{10} E_{00}
M = 4.0
Re/in. × 10^{-6} =0.105
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15 B

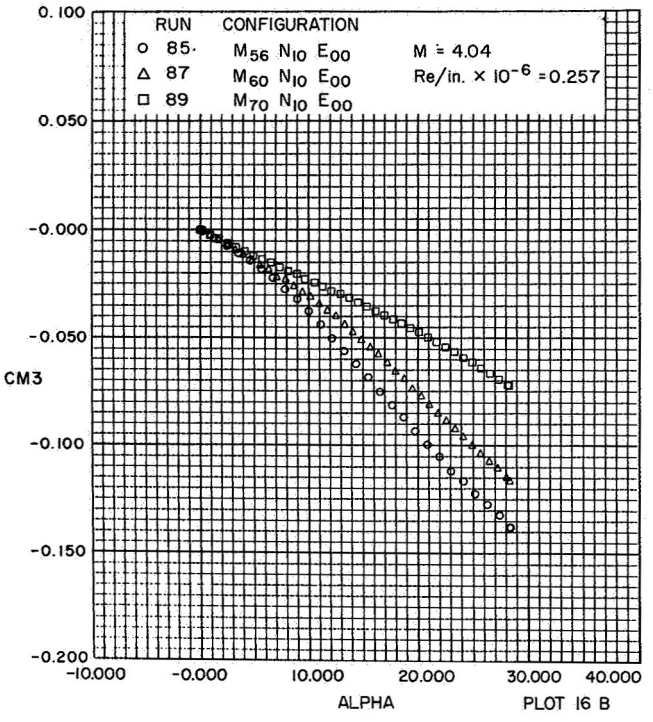

RUN CONFIGURATION
o 84 M_{56} N_{10} E_{00}
Δ 86 M_{60} N_{10} E_{00}
□ 88 M_{70} N_{10} E_{00}
M = 4.0
Re/in. × 10^{-6} =0.105
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15 C

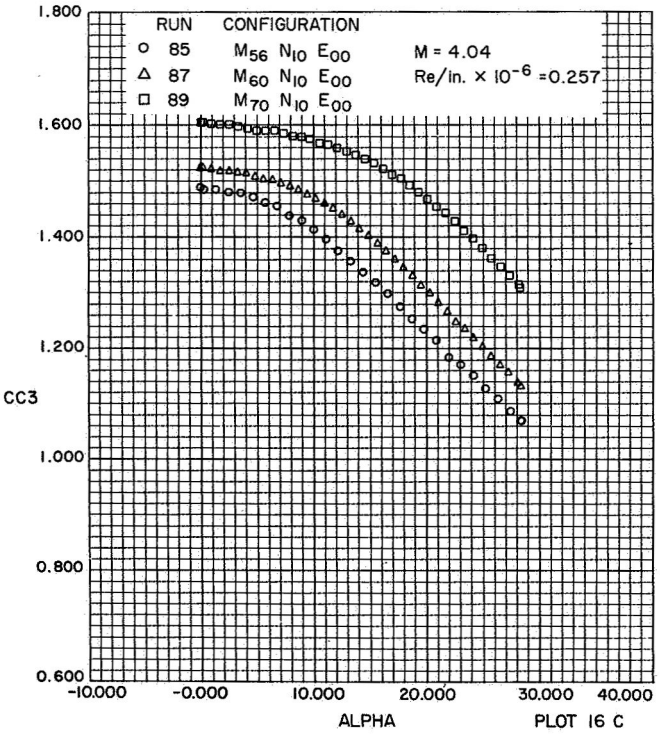

RUN CONFIGURATION
o 84 M_{56} N_{10} E_{00}
Δ 86 M_{60} N_{10} E_{00}
□ 88 M_{70} N_{10} E_{00}
M = 4.0
Re/in. × 10^{-6} =0.105
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15 E

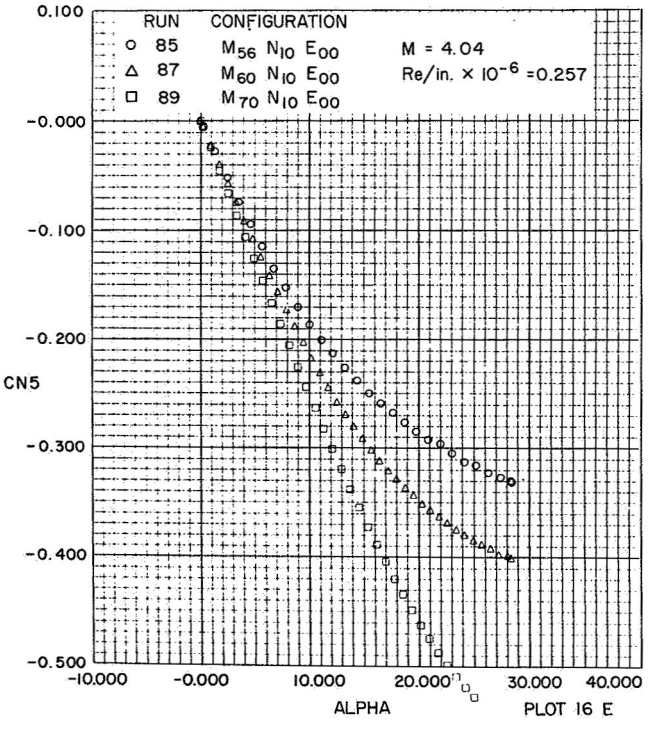

RUN CONFIGURATION
84 M56 N10 E00
86 M60 N10 E00
88 M70 N10 E00
M = 4.0
Re/in. × 10⁻⁶ =0.105
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 15 F

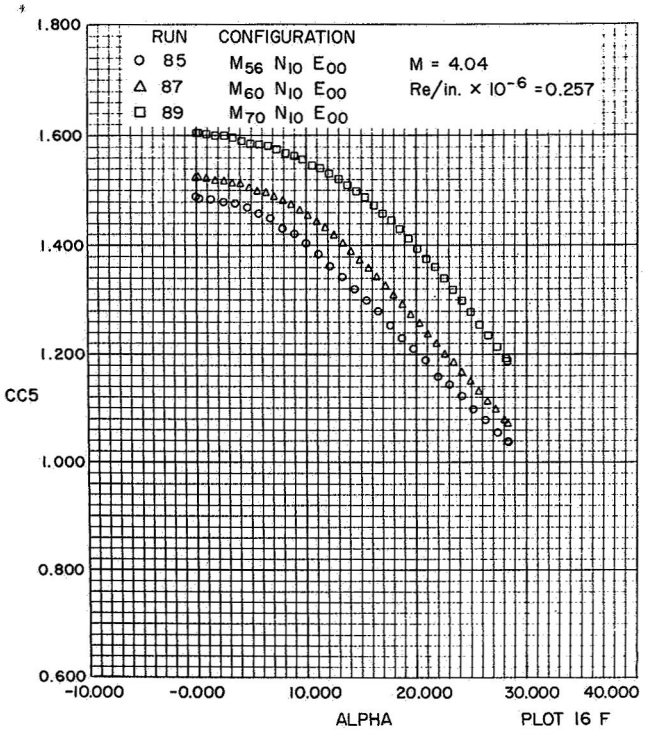

RUN CONFIGURATION
84 M56 N10 E00
86 M60 N10 E00
88 M70 N10 E00
M = 4.0
Re/in. × 10⁻⁶ =0.105
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 15 H

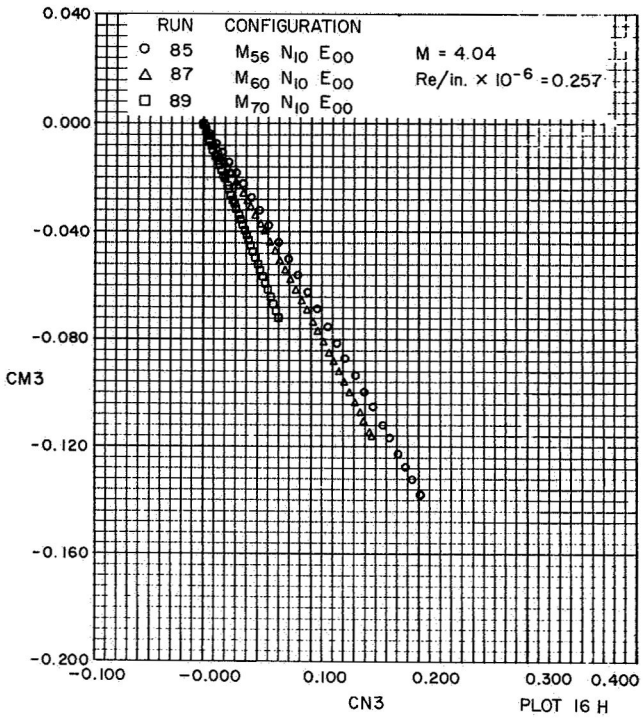

RUN CONFIGURATION
o 85 M_{56} N_{10} E_{00} M = 4.04
Δ 87 M_{60} N_{10} E_{00} Re/in. × 10^{-6} =0.257
□ 89 M_{70} N_{10} E_{00}
CN3
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 16 A


RUN CONFIGURATION
o 85 M_{56} N_{10} E_{00} M = 4.04
Δ 87 M_{60} N_{10} E_{00} Re/in. × 10^{-6} =0.257
□ 89 M_{70} N_{10} E_{00}
CM3
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 16 B


RUN CONFIGURATION
o 85 M_{56} N_{10} E_{00} M = 4.04
Δ 87 M_{60} N_{10} E_{00} Re/in. × 10^{-6} =0.257
□ 89 M_{70} N_{10} E_{00}
CC3
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 16 C


RUN CONFIGURATION
o 85 M_{56} N_{10} E_{00} M = 4.04
Δ 87 M_{60} N_{10} E_{00} Re/in. × 10^{-6} =0.257
□ 89 M_{70} N_{10} E_{00}
CN5
0.100
-0.000
-0.100
-0.200
-0.300
-0.400
-0.500
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 16 E


RUN CONFIGURATION
o 85 M56 N10 E00
Δ 87 M60 N10 E00
□ 89 M70 N10 E00
M = 4.04
Re/in. × 10⁻⁶ = 0.257
CC5
1.800
1.600
1.400
1.200
1.000
0.800
0.600
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 16 F


RUN CONFIGURATION
o 85 M56 N10 E00
Δ 87 M60 N10 E00
□ 89 M70 N10 E00
M = 4.04
Re/in. × 10⁻⁶ = 0.257
CM3
0.040
0.000
-0.040
-0.080
-0.120
-0.160
-0.200
-0.100
-0.000
0.100
0.200
0.300
0.400
CN3
PLOT 16 H

Test 20-641

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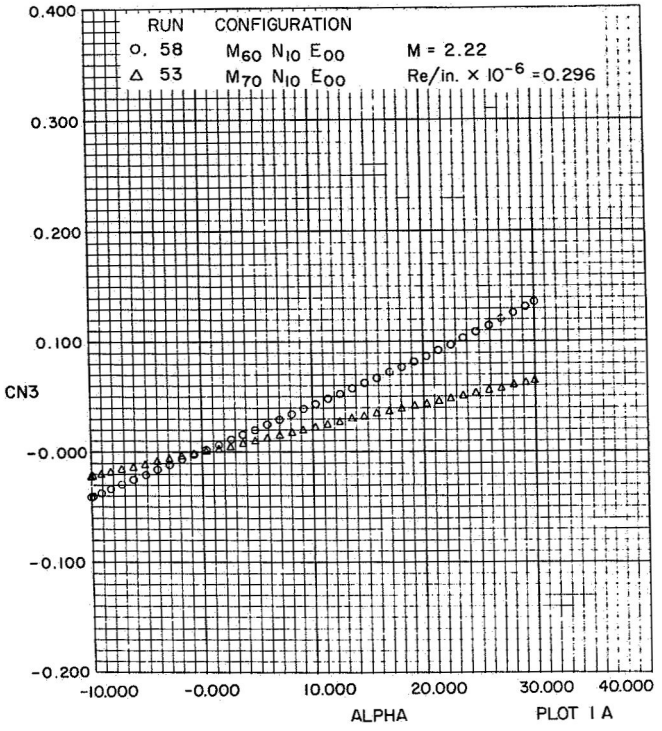
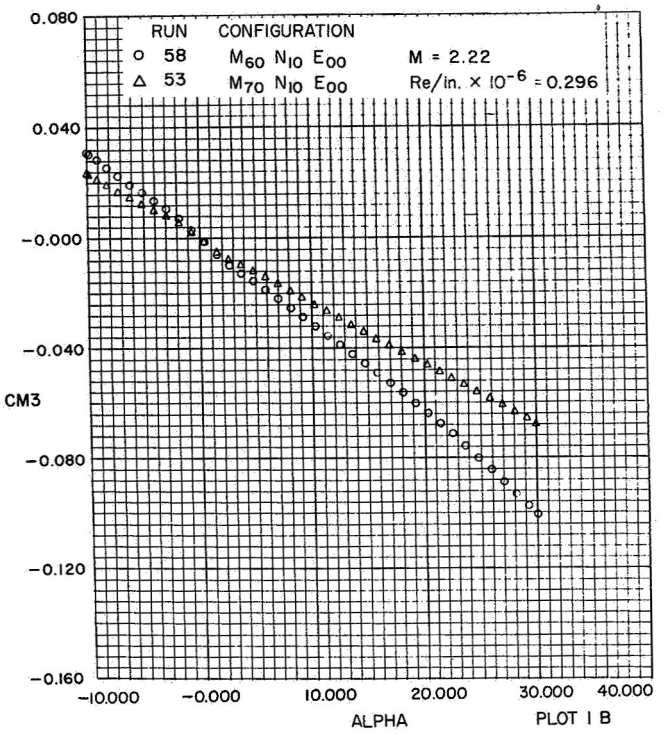
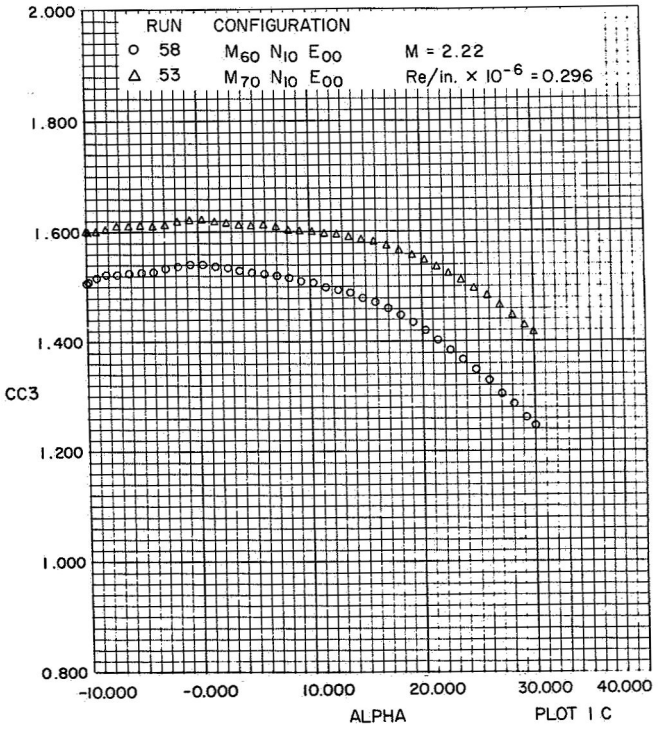
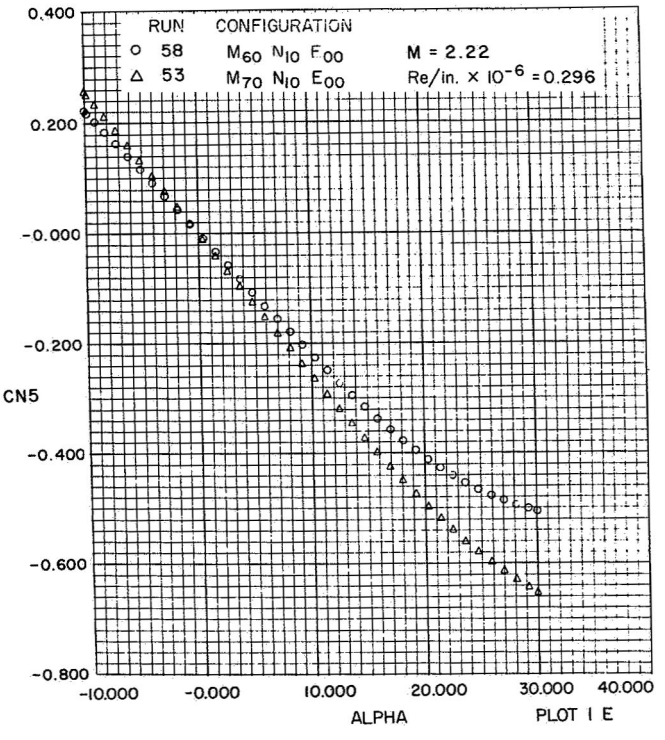
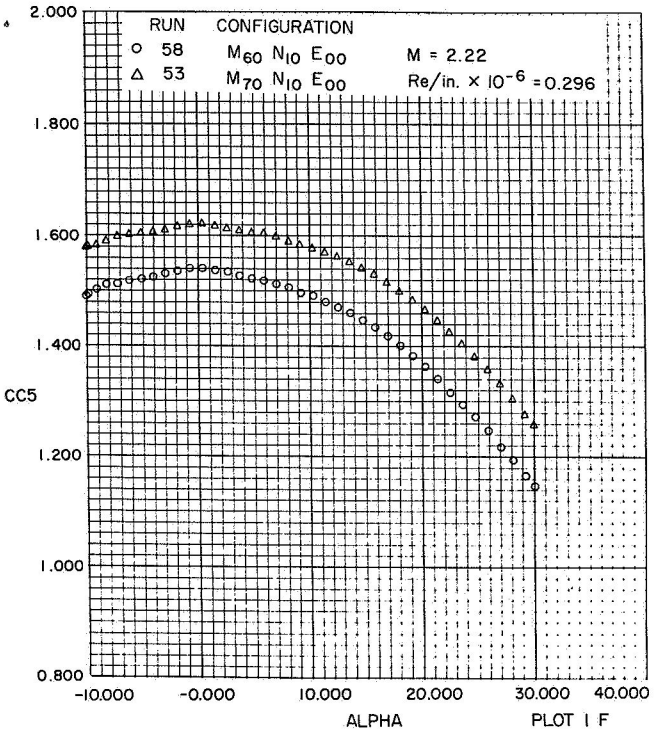
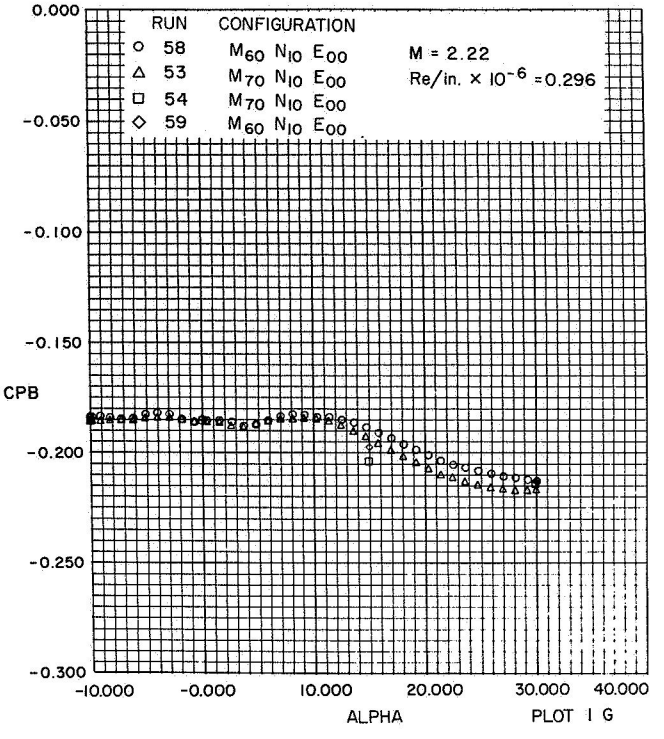

RUN CONFIGURATION
o 58 M_{60} N_{10} E_{00} M = 2.22
Δ 53 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.296
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
CN3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I A

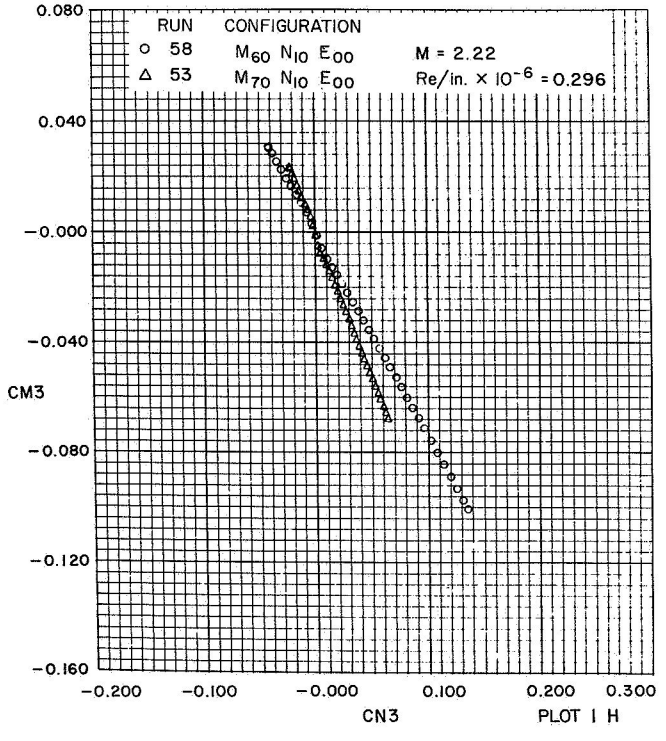

RUN CONFIGURATION
o 58 M_{60} N_{10} E_{00} M = 2.22
Δ 53 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.296
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I B

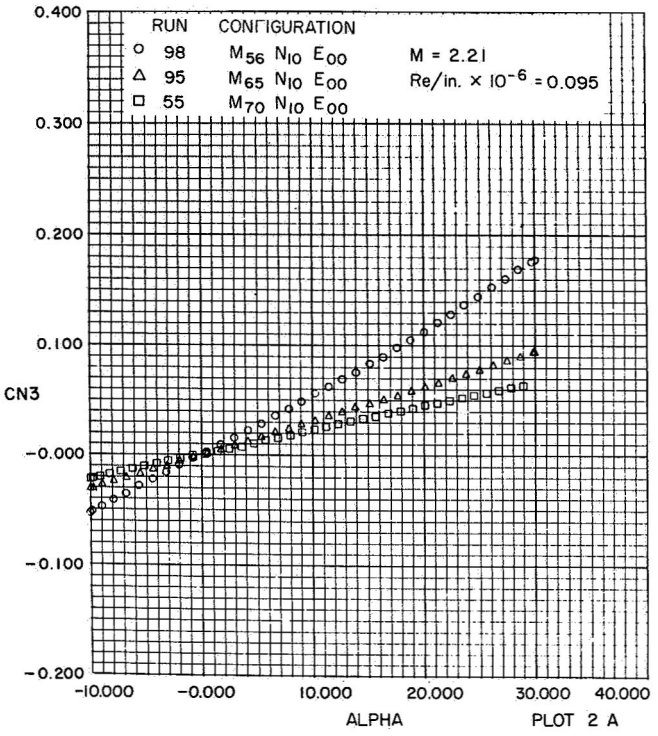

RUN CONFIGURATION
o 58 M_{60} N_{10} E_{00} M = 2.22
Δ 53 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.296
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I C

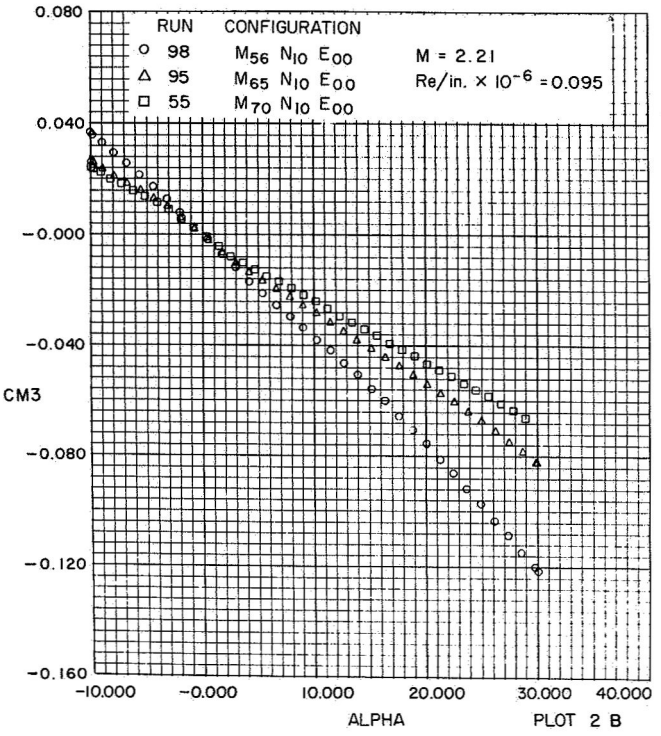

RUN CONFIGURATION
o 58 M_{60} N_{10} E_{00} M = 2.22
Δ 53 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.296
0.400
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
CN5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT I E

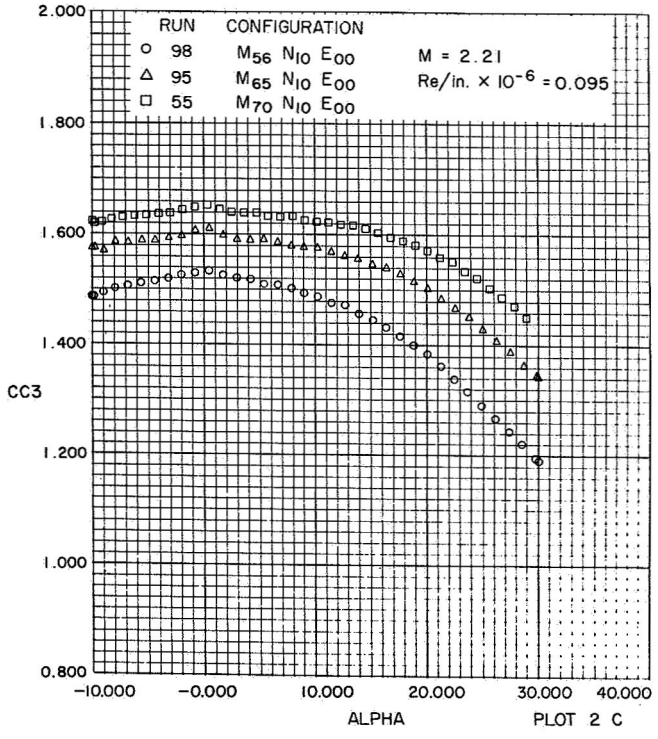

RUN CONFIGURATION
○ 58 M_{60} N_{10} E_{00} M = 2.22
△ 53 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.296
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT I F

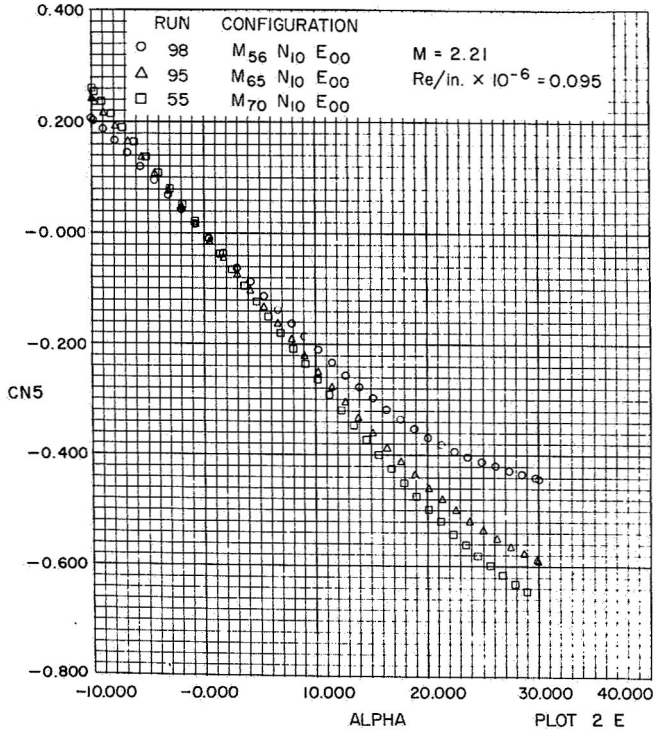

RUN CONFIGURATION
○ 58 M_{60} N_{10} E_{00} M = 2.22
△ 53 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.296
□ 54 M_{70} N_{10} E_{00}
◇ 59 M_{60} N_{10} E_{00}
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT I G

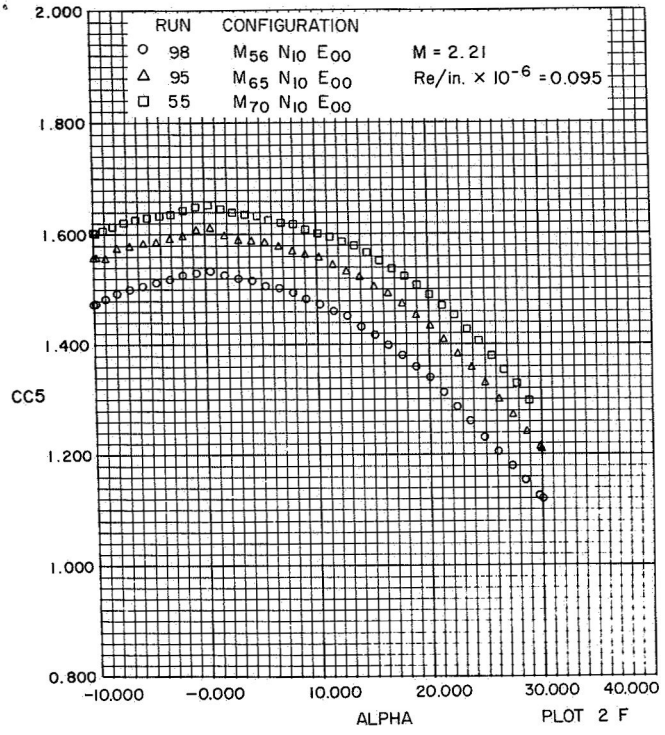

RUN CONFIGURATION
○ 58 M_{60} N_{10} E_{00} M = 2.22
△ 53 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.296
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200 -0.100 -0.000 0.100 0.200 0.300
CN3
PLOT I H

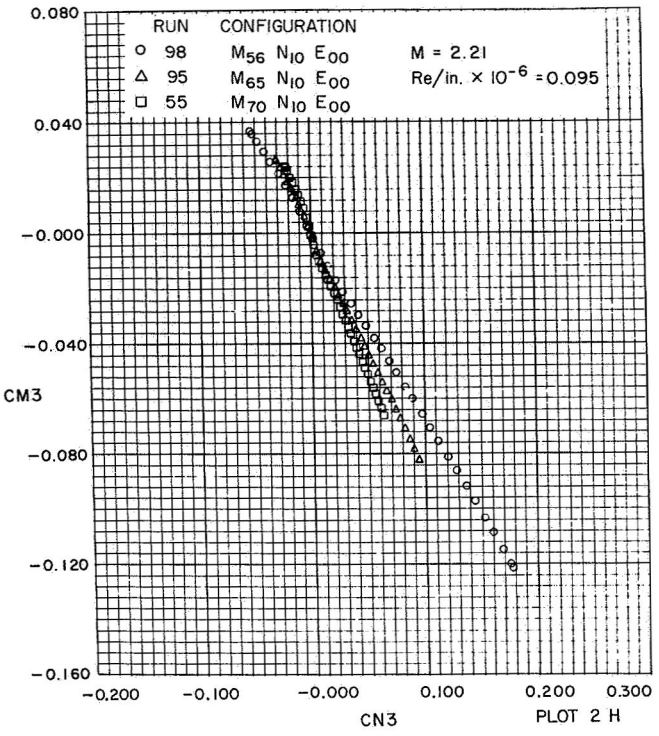

RUN CONFIGURATION
98 M_{56} N_{10} E_{00}
95 M_{65} N_{10} E_{00}
55 M_{70} N_{10} E_{00}
M = 2.21
Re/in. × 10^{-6} = 0.095
CN3
0.400
0.300
0.200
0.100
−0.000
−0.100
−0.200
−10.000
−0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2 A

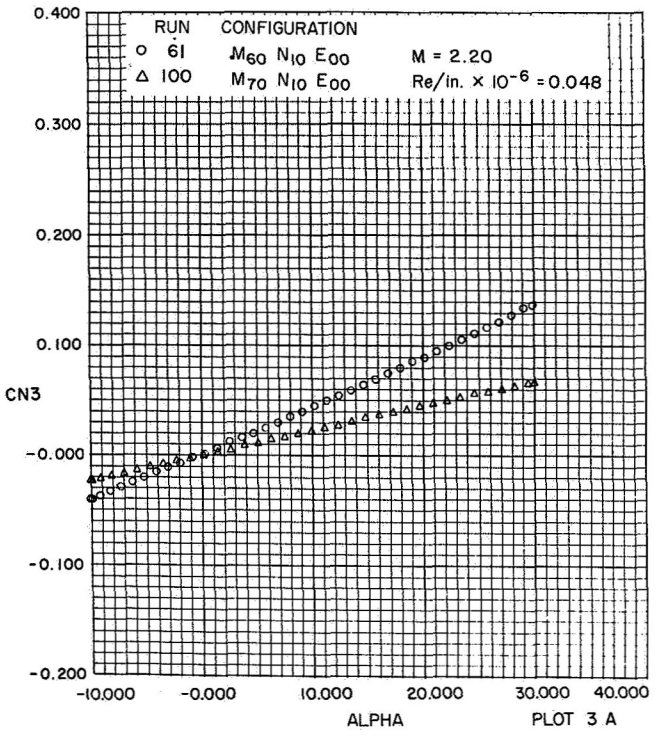

RUN CONFIGURATION
98 M_{56} N_{10} E_{00}
95 M_{65} N_{10} E_{00}
55 M_{70} N_{10} E_{00}
M = 2.21
Re/in. × 10^{-6} = 0.095
CM3
0.080
0.040
−0.000
−0.040
−0.080
−0.120
−0.160
−10.000
−0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2 B


RUN CONFIGURATION
98 M_{56} N_{10} E_{00}
95 M_{65} N_{10} E_{00}
55 M_{70} N_{10} E_{00}
M = 2.21
Re/in. × 10^{-6} = 0.095
CC3
2.000
1.800
1.600
1.400
1.200
1.000
0.800
−10.000
−0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2 C

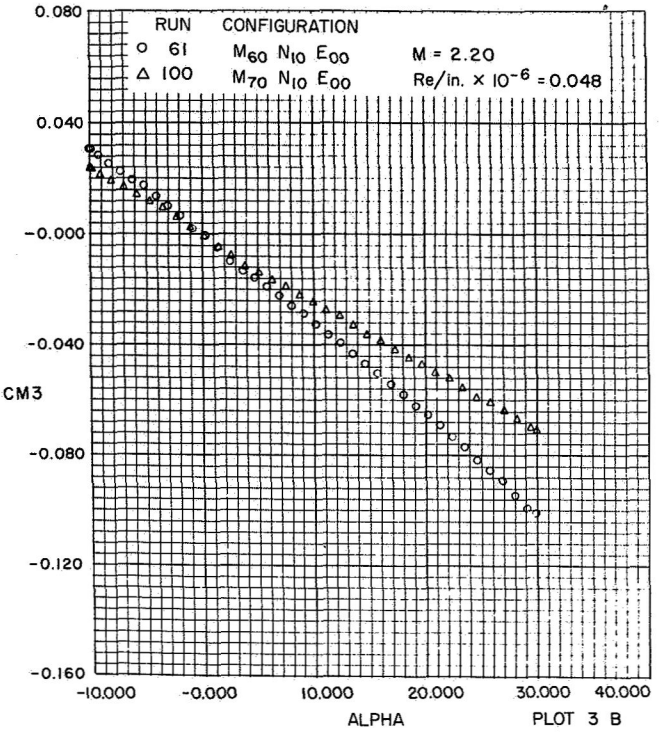

RUN CONFIGURATION
98 M_{56} N_{10} E_{00}
95 M_{65} N_{10} E_{00}
55 M_{70} N_{10} E_{00}
M = 2.21
Re/in. × 10^{-6} = 0.095
CN5
0.400
0.200
−0.000
−0.200
−0.400
−0.600
−0.800
−10.000
−0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2 E


RUN CONFIGURATION
○ 98 M_{56} N_{10} E_{00} M = 2.21
△ 95 M_{65} N_{10} E_{00} Re/in. × 10^{-6} = 0.095
□ 55 M_{70} N_{10} E_{00}
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 2 F

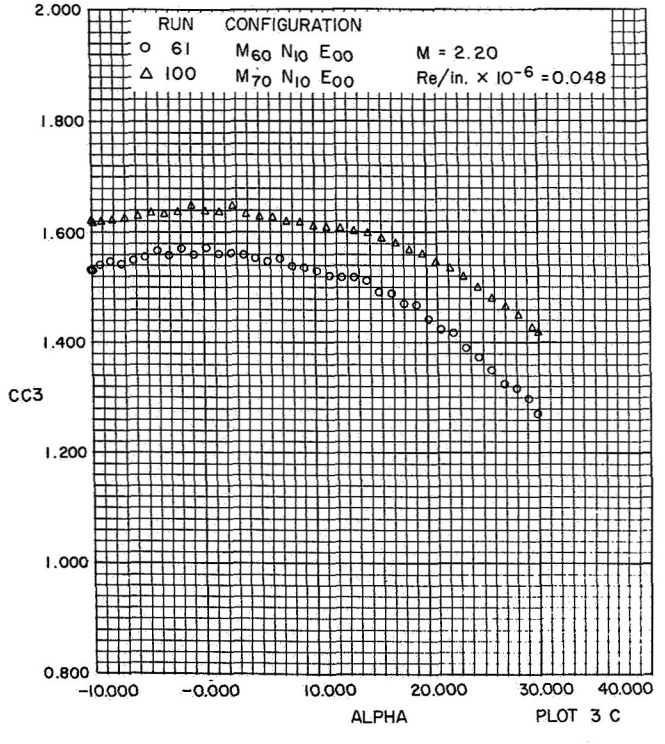

RUN CONFIGURATION
○ 98 M_{56} N_{10} E_{00} M = 2.21
△ 95 M_{65} N_{10} E_{00} Re/in. × 10^{-6} = 0.095
□ 55 M_{70} N_{10} E_{00}
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT 2 H



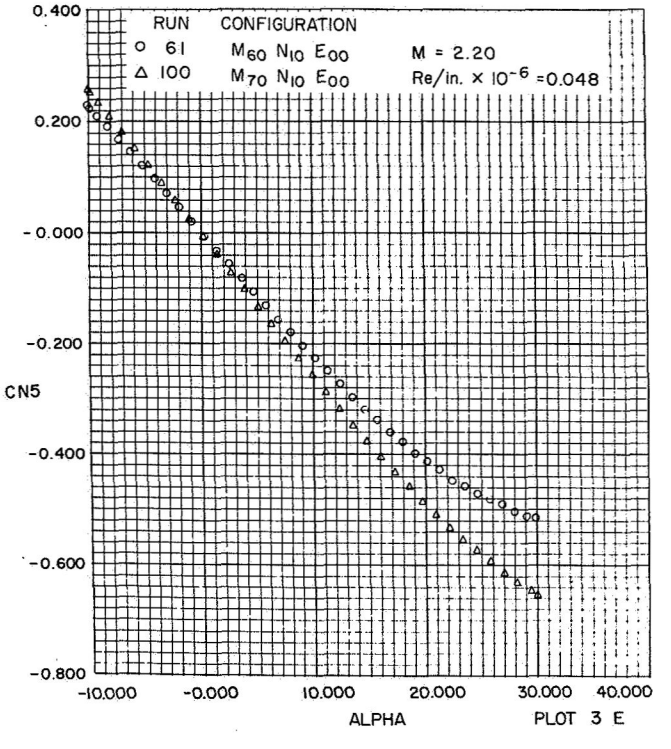
PLOT 3 A



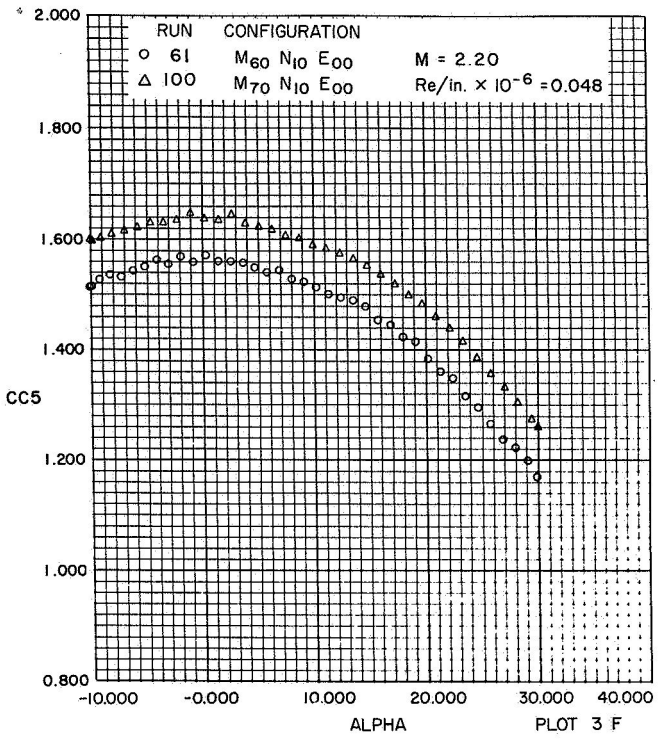
PLOT 3 B

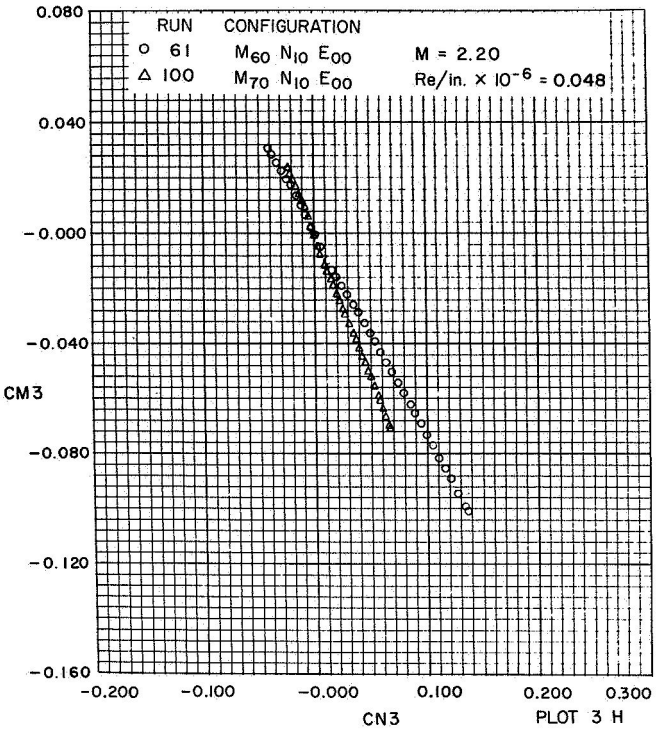


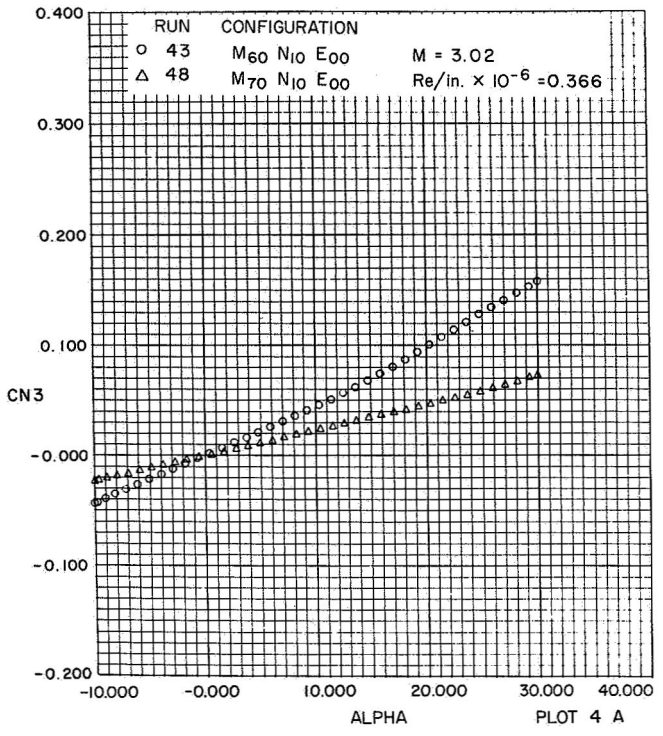
PLOT 3 C

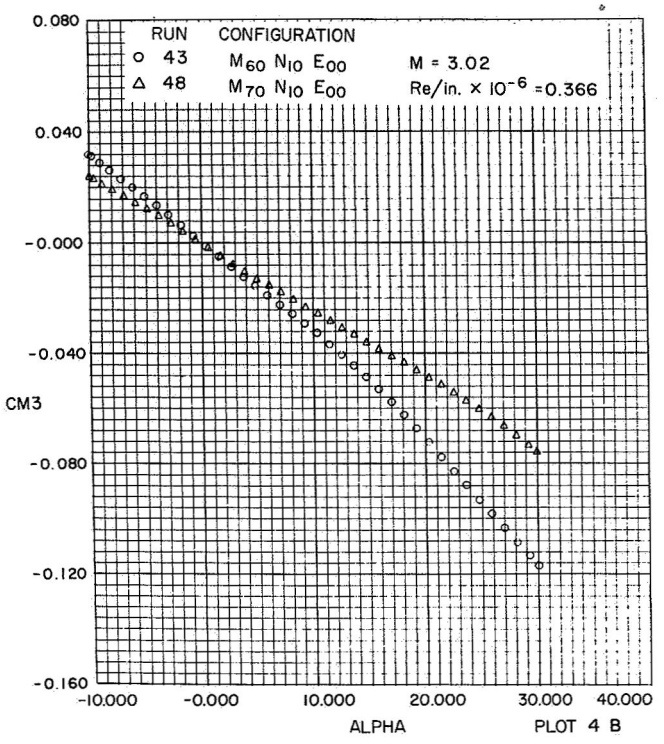


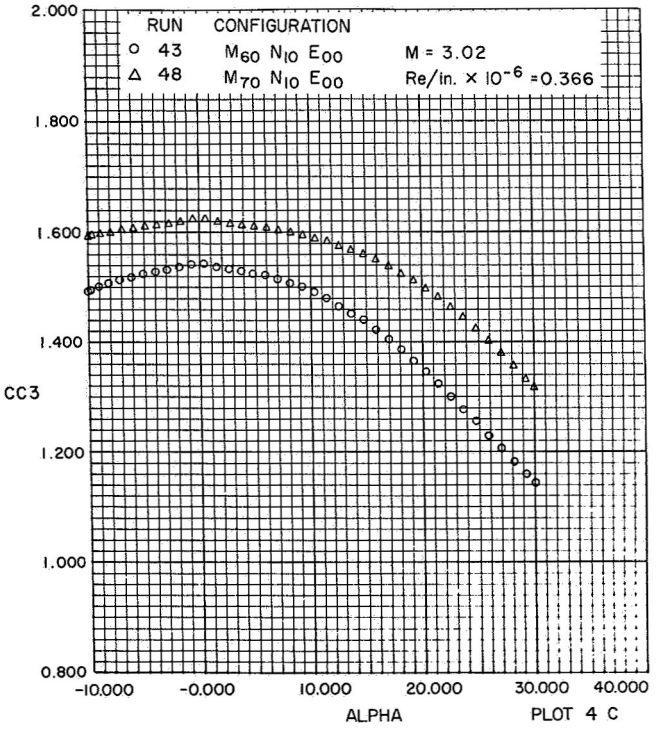
PLOT 3 E

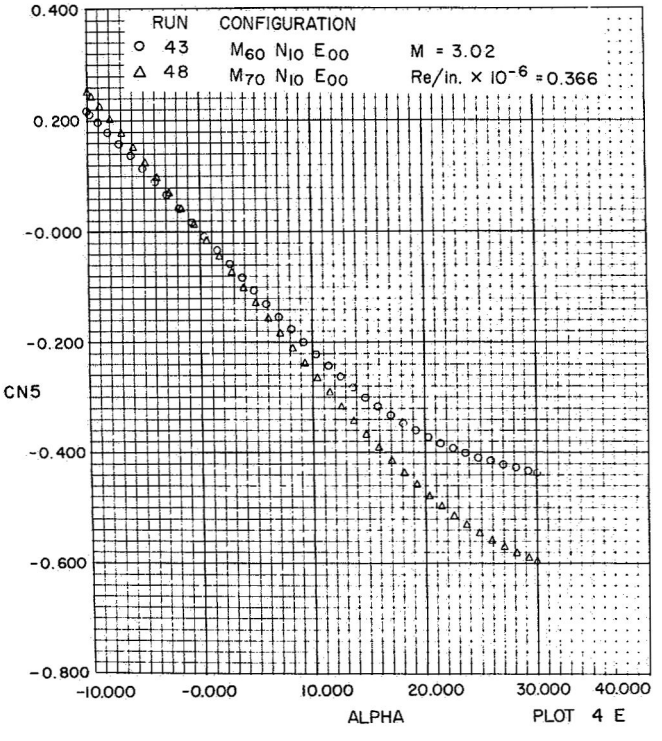

RUN CONFIGURATION
o 61 M_{60} N_{10} E_{00} M = 2.20
Δ 100 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.048
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 3 F

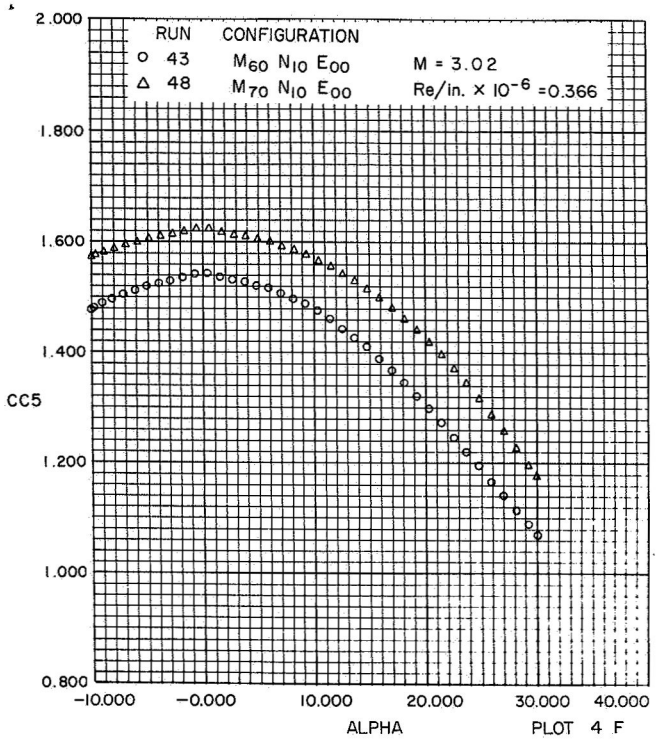

RUN CONFIGURATION
o 61 M_{60} N_{10} E_{00} M = 2.20
Δ 100 M_{70} N_{10} E_{00} Re/in. × 10^{-6} = 0.048
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT 3 H

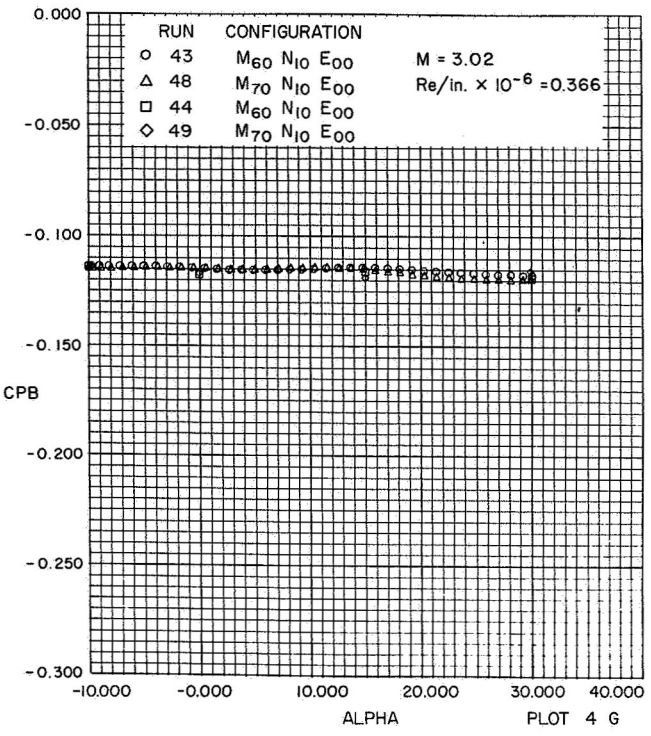

RUN CONFIGURATION
o 43 M60 N10 E00 M = 3.02
Δ 48 M70 N10 E00 Re/in. × 10-6 =0.366
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
CN3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 4 A

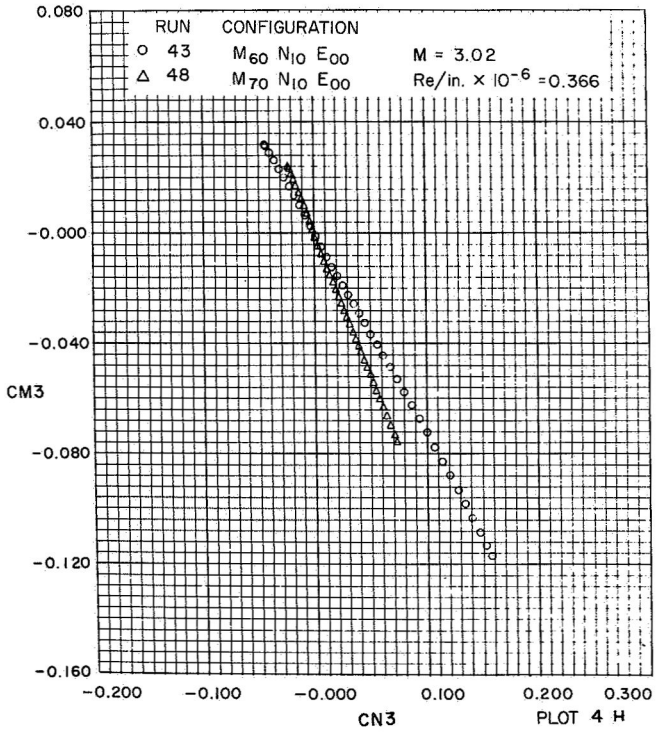

RUN CONFIGURATION
o 43 M60 N10 E00 M = 3.02
Δ 48 M70 N10 E00 Re/in. × 10-6 =0.366
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 4 B

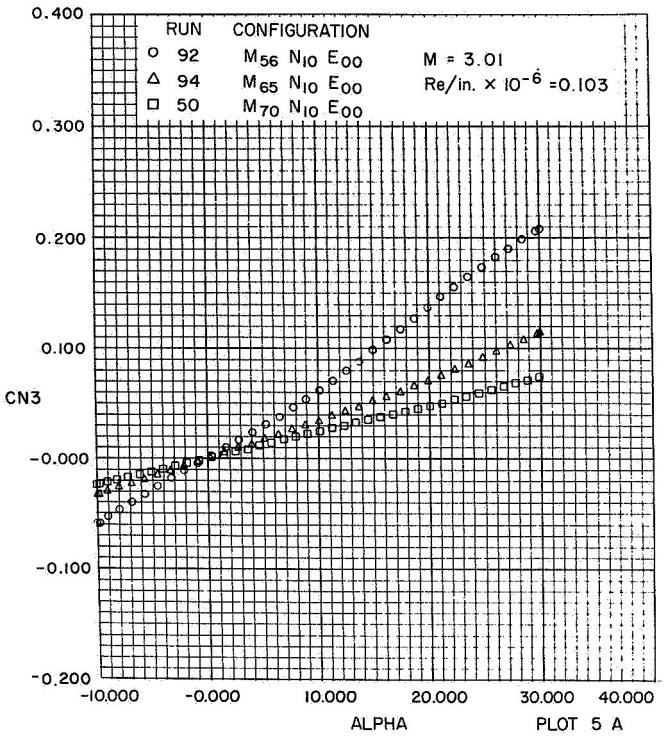

RUN CONFIGURATION
o 43 M60 N10 E00 M = 3.02
Δ 48 M70 N10 E00 Re/in. × 10-6 =0.366
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 4 C

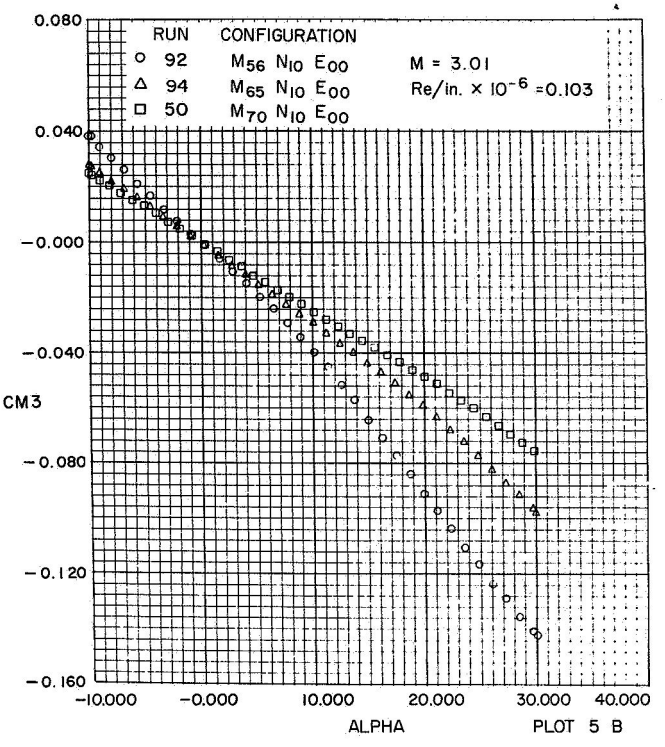

RUN CONFIGURATION
o 43 M60 N10 E00 M = 3.02
Δ 48 M70 N10 E00 Re/in. × 10-6 =0.366
0.400
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
CN5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 4 E

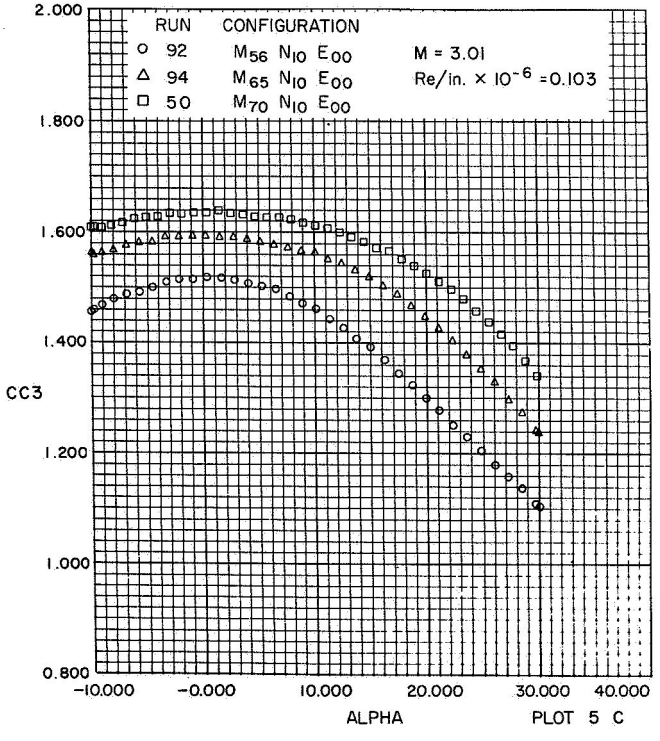

RUN CONFIGURATION
○ 43 M_{60} N_{10} E_{00} M = 3.02
△ 48 M_{70} N_{10} E_{00} Re/in. × 10^{-6} =0.366
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 4 F

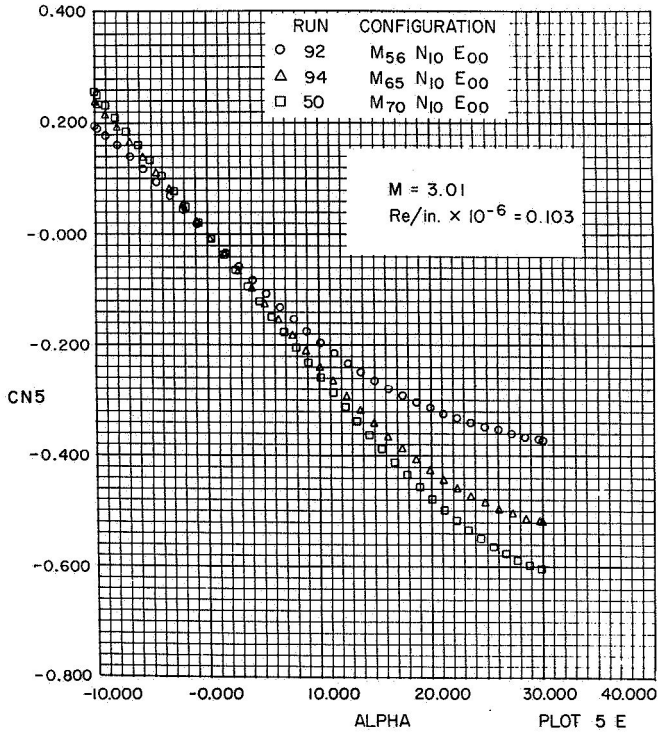

RUN CONFIGURATION
○ 43 M_{60} N_{10} E_{00} M = 3.02
△ 48 M_{70} N_{10} E_{00} Re/in. × 10^{-6} =0.366
□ 44 M_{60} N_{10} E_{00}
◇ 49 M_{70} N_{10} E_{00}
0.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
CPB
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 4 G

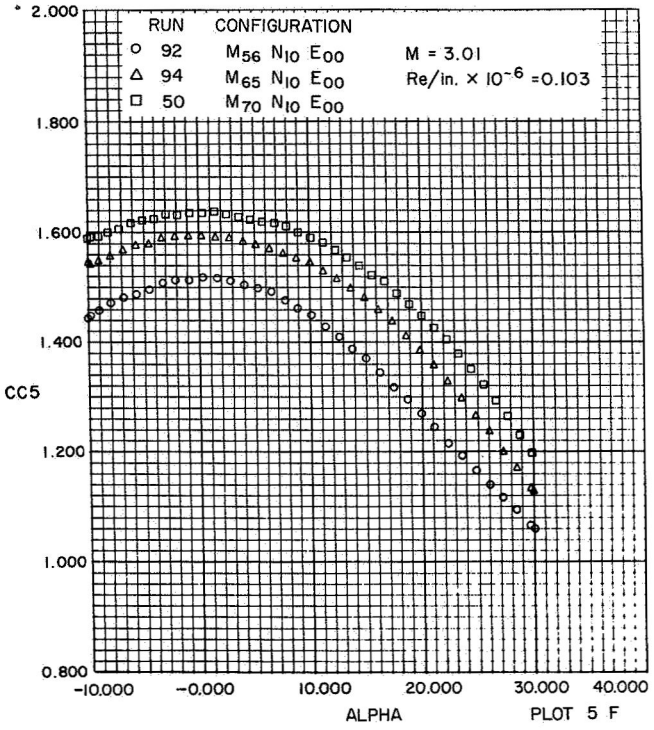

RUN CONFIGURATION
○ 43 M_{60} N_{10} E_{00} M = 3.02
△ 48 M_{70} N_{10} E_{00} Re/in. × 10^{-6} =0.366
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200 -0.100 -0.000 0.100 0.200 0.300
CN3
PLOT 4 H

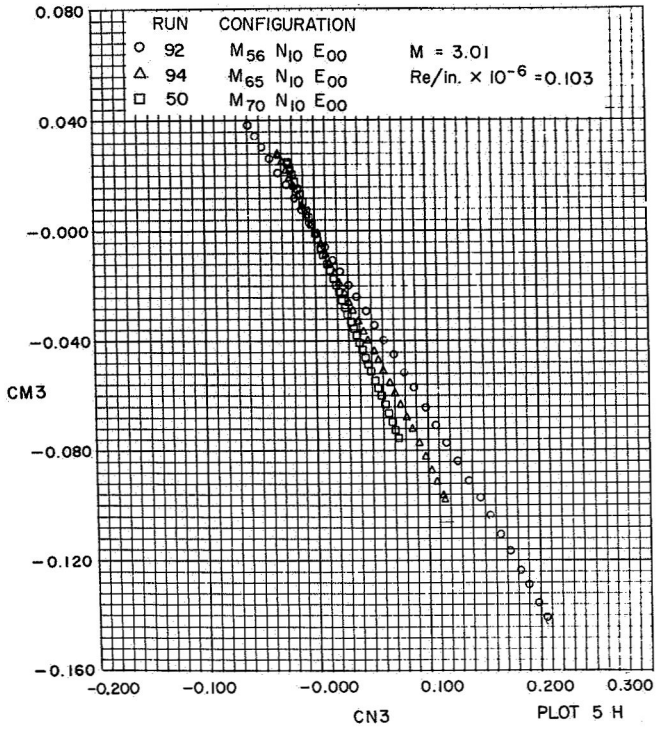

RUN CONFIGURATION
92 M_{56} N_{10} E_{00}
94 M_{65} N_{10} E_{00}
50 M_{70} N_{10} E_{00}
M = 3.01
Re/in. × 10^{-6} =0.103
CN3
ALPHA
PLOT 5 A

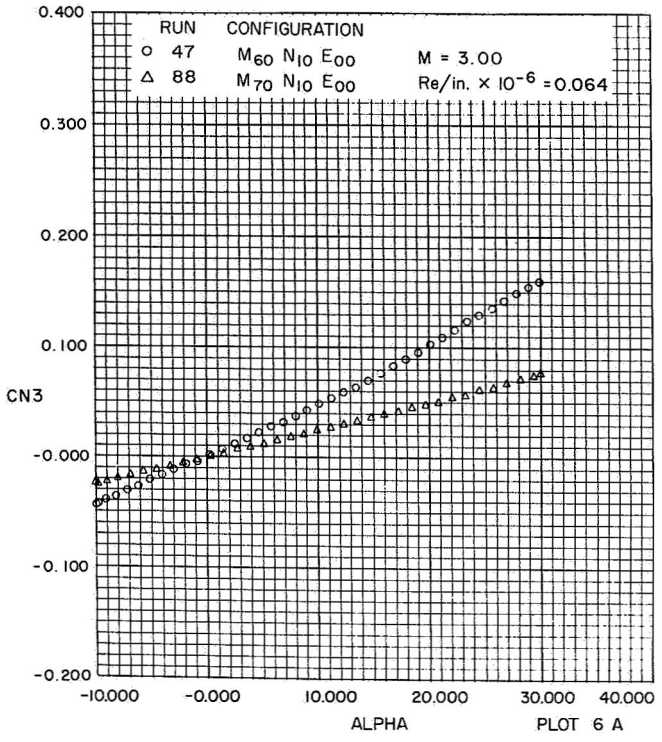

RUN CONFIGURATION
92 M_{56} N_{10} E_{00}
94 M_{65} N_{10} E_{00}
50 M_{70} N_{10} E_{00}
M = 3.01
Re/in. × 10^{-6} =0.103
CM3
ALPHA
PLOT 5 B

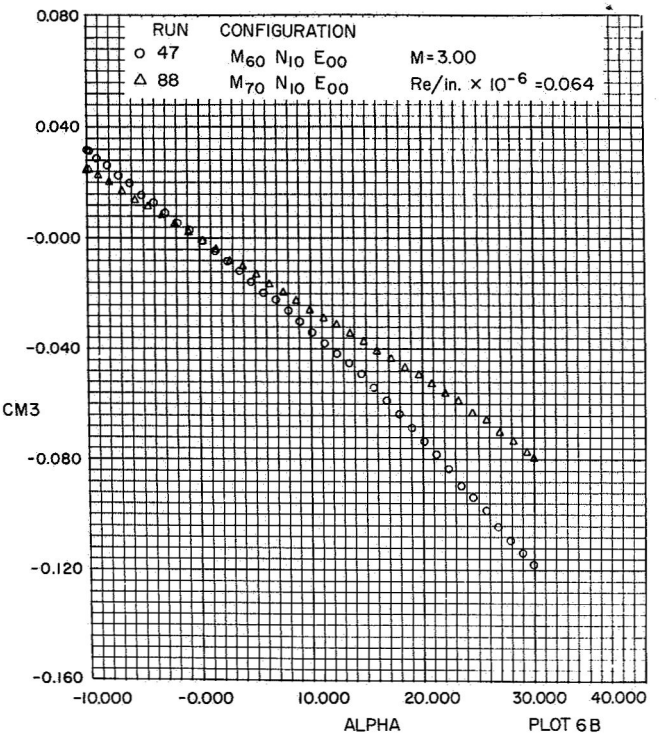

RUN CONFIGURATION
92 M_{56} N_{10} E_{00}
94 M_{65} N_{10} E_{00}
50 M_{70} N_{10} E_{00}
M = 3.01
Re/in. × 10^{-6} =0.103
CC3
ALPHA
PLOT 5 C

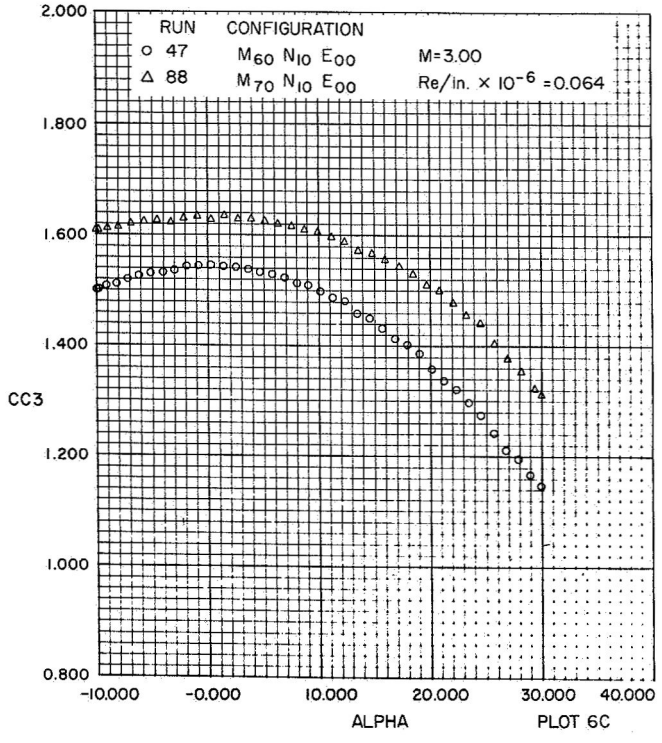

RUN CONFIGURATION
92 M_{56} N_{10} E_{00}
94 M_{65} N_{10} E_{00}
50 M_{70} N_{10} E_{00}
M = 3.01
Re/in. × 10^{-6} = 0.103
CN5
ALPHA
PLOT 5 E

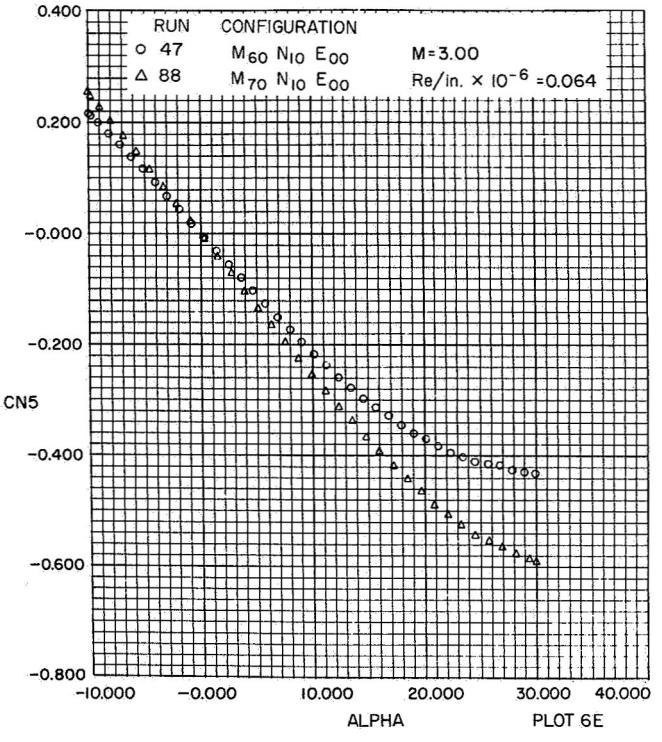

RUN CONFIGURATION
○ 92 M_{56} N_{10} E_{00} M = 3.01
△ 94 M_{65} N_{10} E_{00} Re/in. × 10^{-6} =0.103
□ 50 M_{70} N_{10} E_{00}
* 2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 5 F

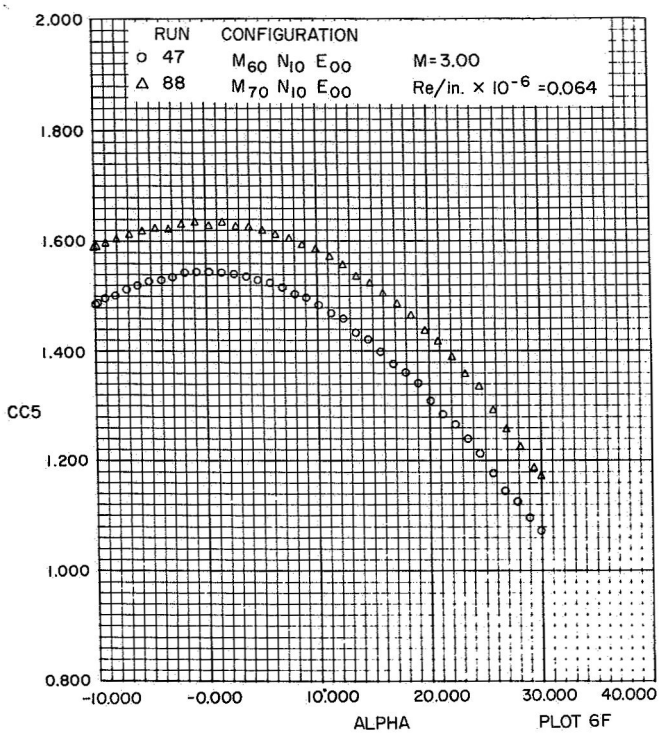

RUN CONFIGURATION
○ 92 M_{56} N_{10} E_{00} M = 3.01
△ 94 M_{65} N_{10} E_{00} Re/in. × 10^{-6} =0.103
□ 50 M_{70} N_{10} E_{00}
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT 5 H

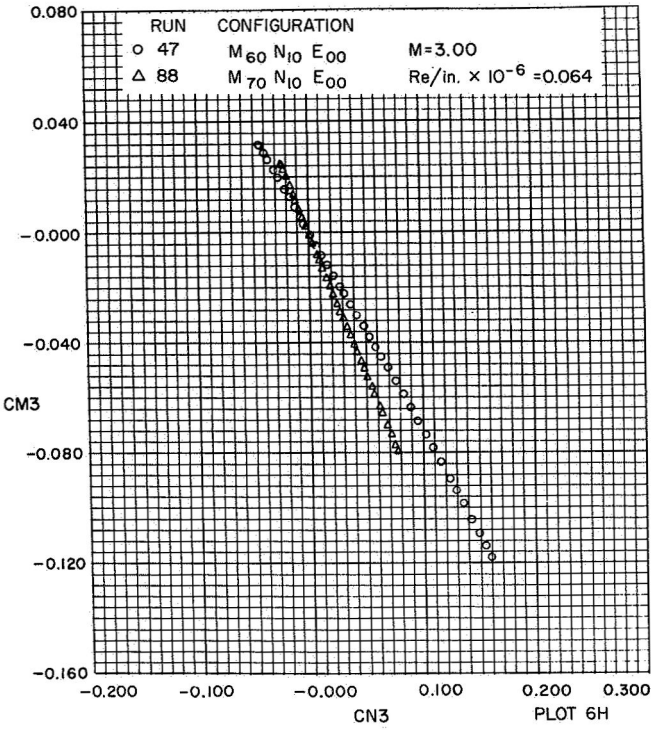

RUN CONFIGURATION
o 47 M_{60} N_{10} E_{00} M = 3.00
Δ 88 M_{70} N_{10} E_{00} Re/in. × 10^{-6} =0.064
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
CN3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6 A

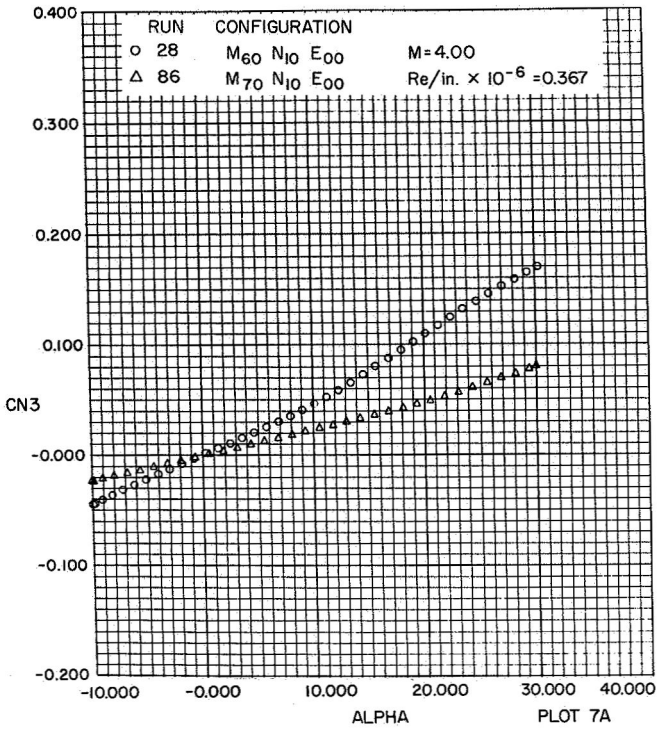

RUN CONFIGURATION
o 47 M_{60} N_{10} E_{00} M=3.00
Δ 88 M_{70} N_{10} E_{00} Re/in. × 10^{-6} =0.064
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6B

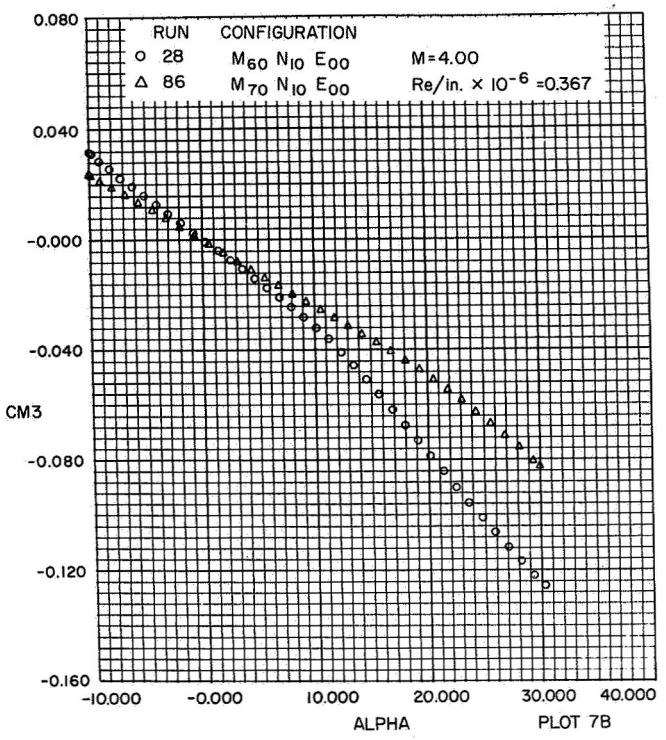

RUN CONFIGURATION
o 47 M_{60} N_{10} E_{00} M=3.00
Δ 88 M_{70} N_{10} E_{00} Re/in. × 10^{-6} =0.064
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6C

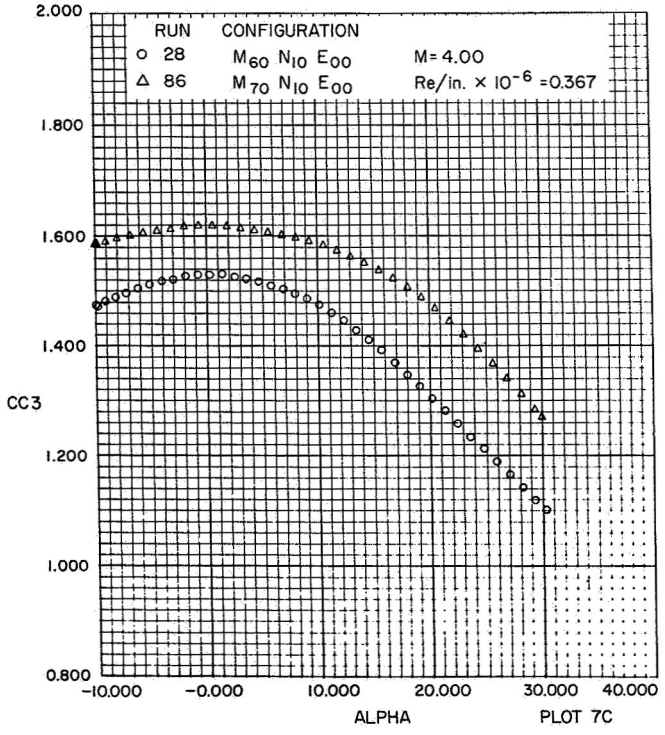

RUN CONFIGURATION
o 47 M_{60} N_{10} E_{00} M=3.00
Δ 88 M_{70} N_{10} E_{00} Re/in. × 10^{-6} =0.064
0.400
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
CN5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6E

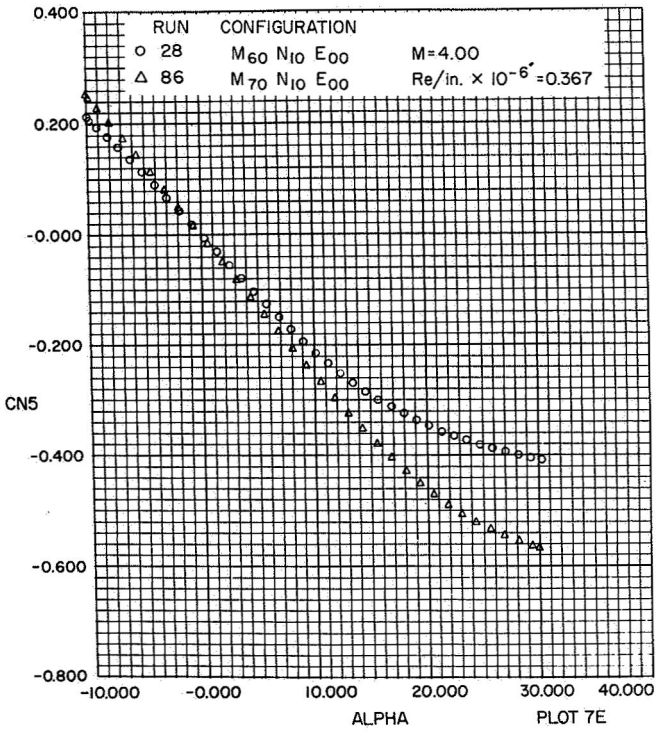

RUN CONFIGURATION
o 47 M60 N10 E00 M=3.00
Δ 88 M70 N10 E00 Re/in. × 10-6 =0.064
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 6F

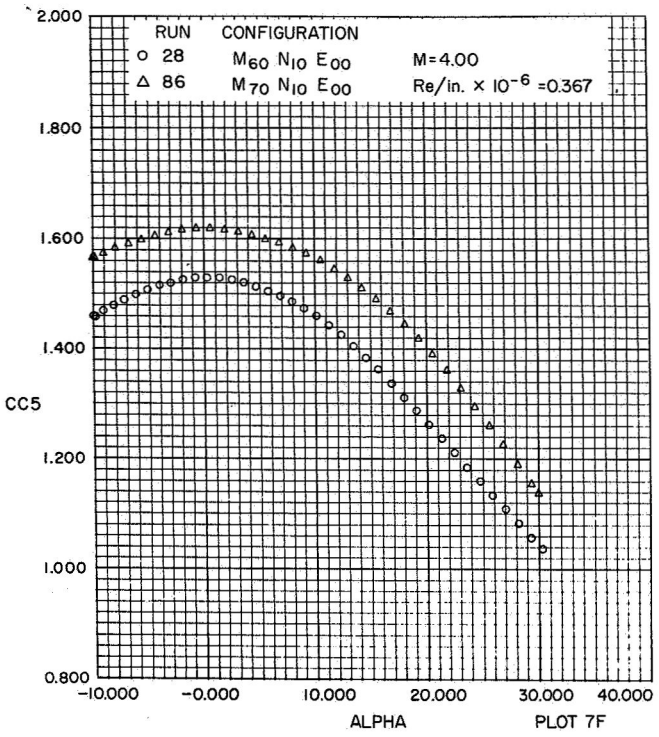

RUN CONFIGURATION
o 47 M60 N10 E00 M=3.00
Δ 88 M70 N10 E00 Re/in. × 10-6 =0.064
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT 6H


RUN CONFIGURATION
o 28 M60 N10 E00 M=4.00
Δ 86 M70 N10 E00 Re/in. × 10-6 =0.367
0.400
0.300
0.200
0.100
-0.000
-0.100
-0.200
CN3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 7A

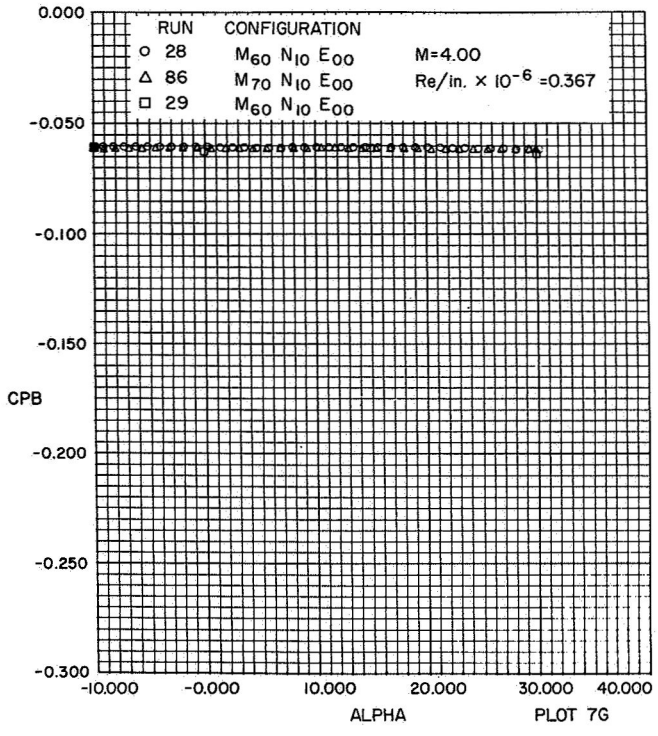

RUN CONFIGURATION
o 28 M60 N10 E00 M=4.00
Δ 86 M70 N10 E00 Re/in. × 10-6 =0.367
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 7B


RUN CONFIGURATION
o 28 M60 N10 E00 M=4.00
Δ 86 M70 N10 E00 Re/in. × 10-6 =0.367
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC3
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 7C

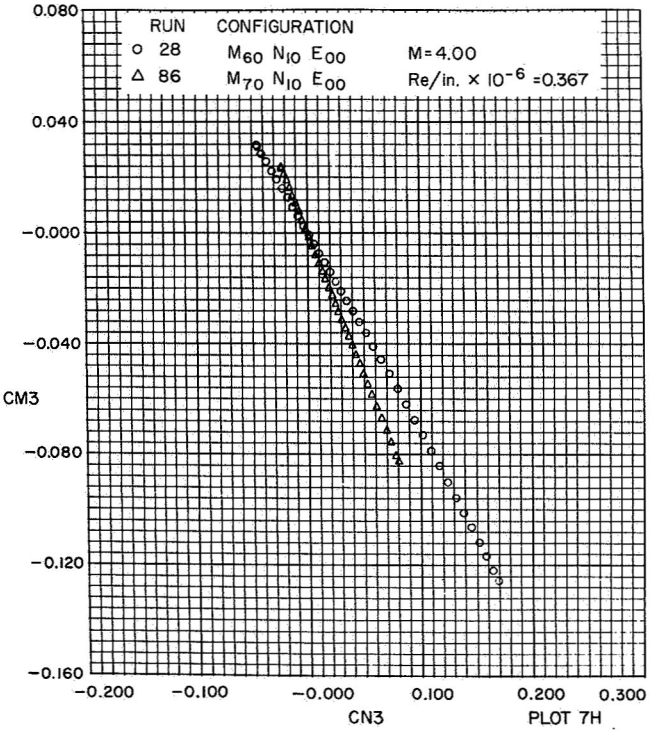

RUN CONFIGURATION
o 28 M60 N10 E00 M=4.00
Δ 86 M70 N10 E00 Re/in. × 10-6 =0.367
0.400
0.200
-0.000
-0.200
-0.400
-0.600
-0.800
CN5
-10.000 -0.000 10.000 20.000 30.000 40.000
ALPHA
PLOT 7E



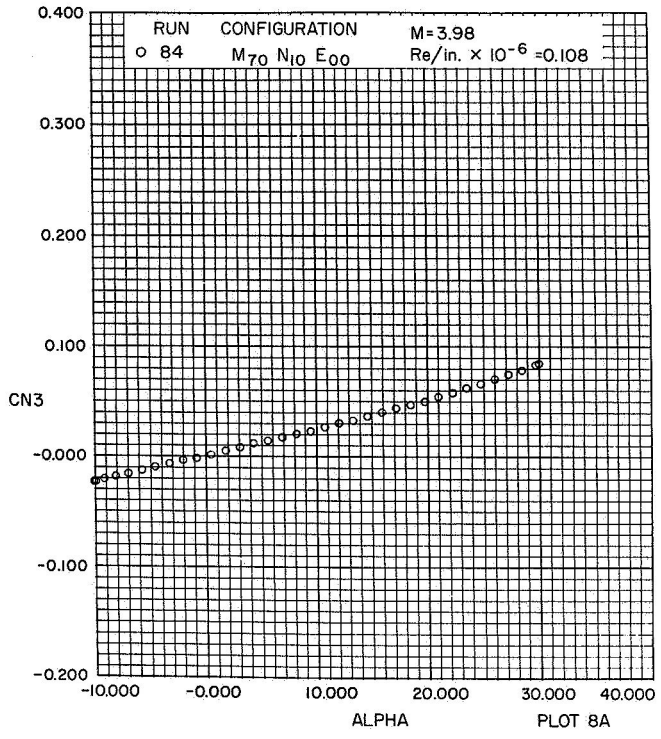
PLOT 7F



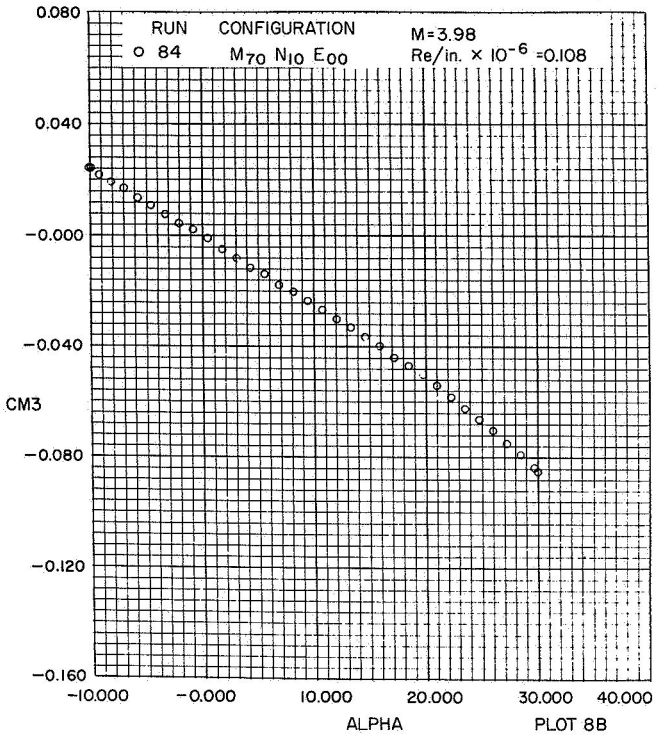
PLOT 7G



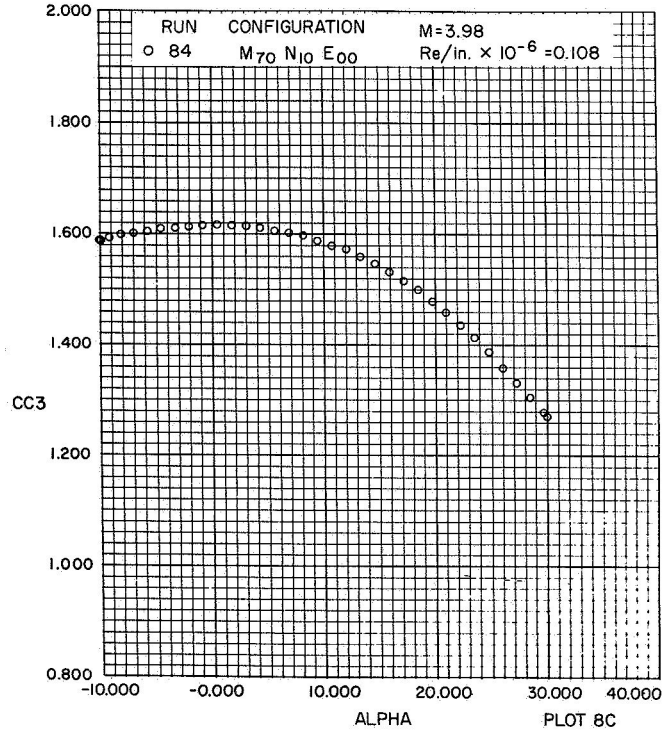
PLOT 7H



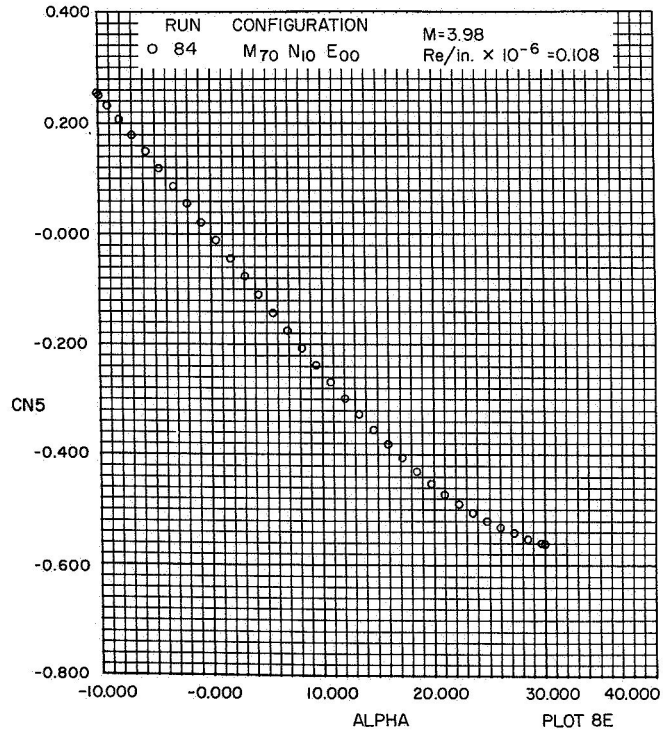
PLOT 8A



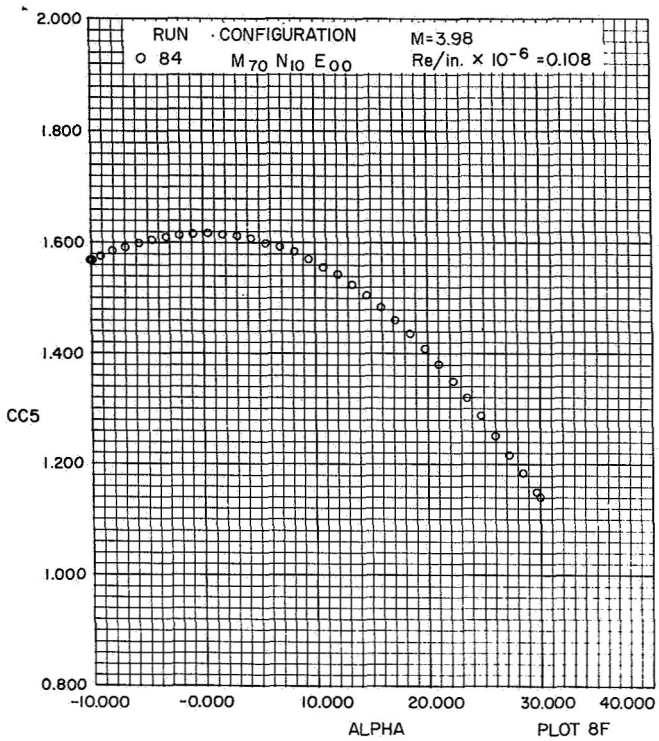
PLOT 8B

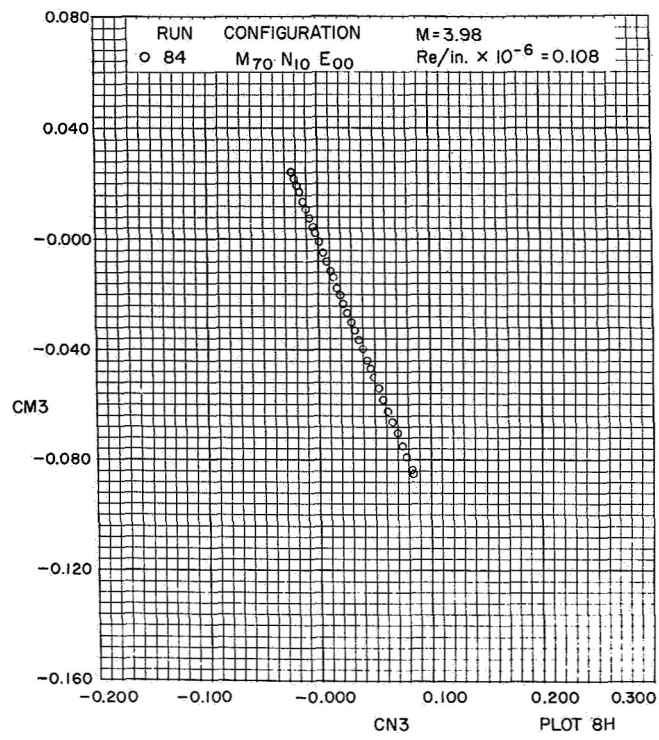


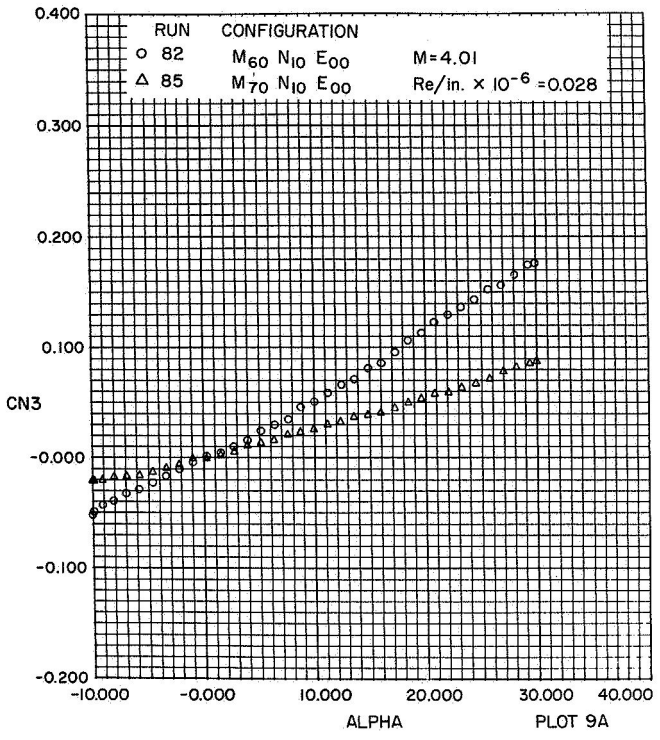
PLOT 8C



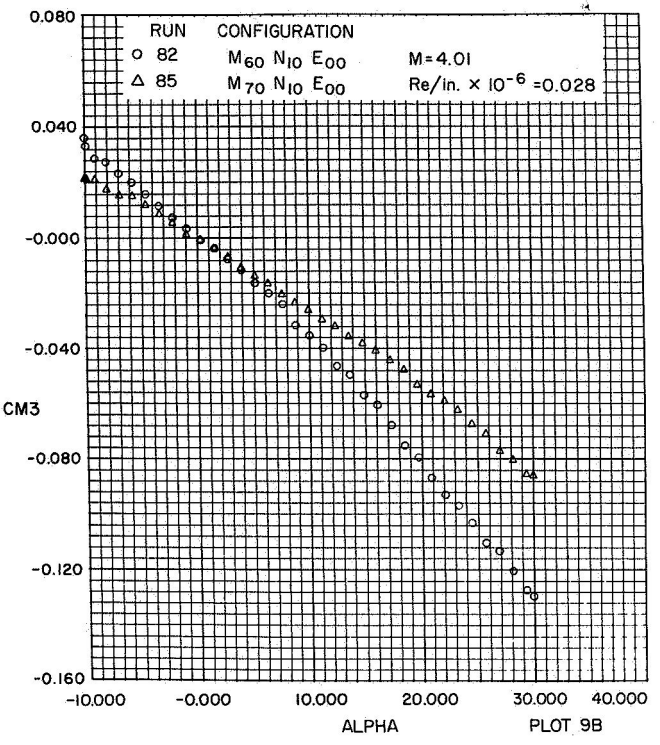
PLOT 8E


RUN
CONFIGURATION
M=3.98
o 84
M70 N10 E00
Re/in. × 10⁻⁶ =0.108
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 8F

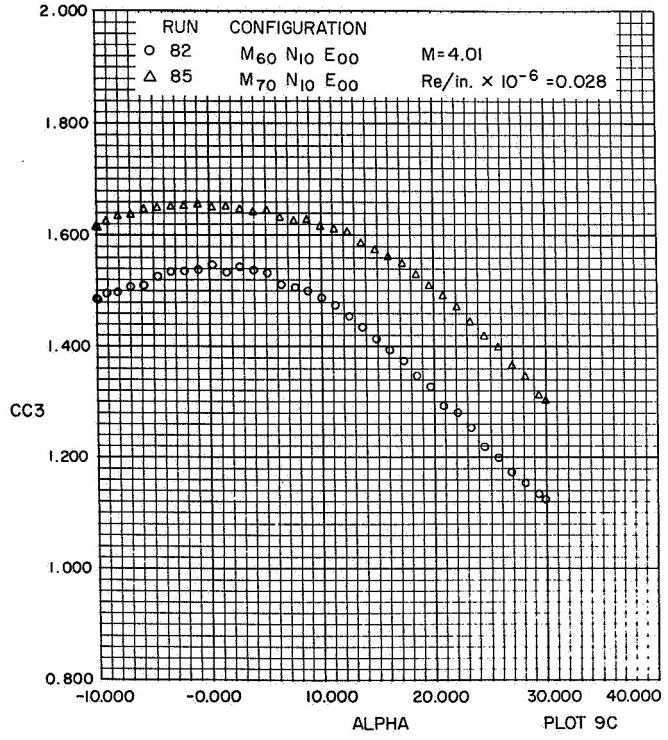

RUN
CONFIGURATION
M=3.98
o 84
M70 N10 E00
Re/in. × 10⁻⁶ =0.108
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT 8H



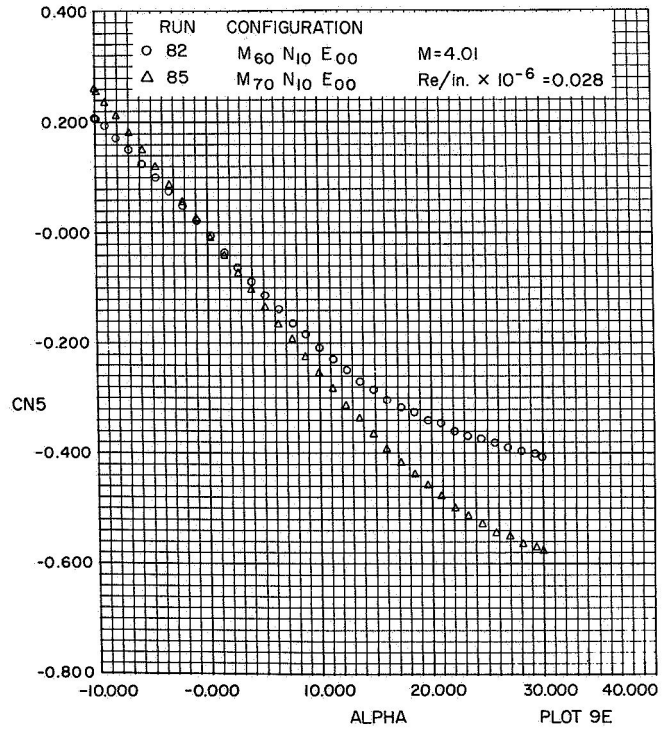
PLOT 9A



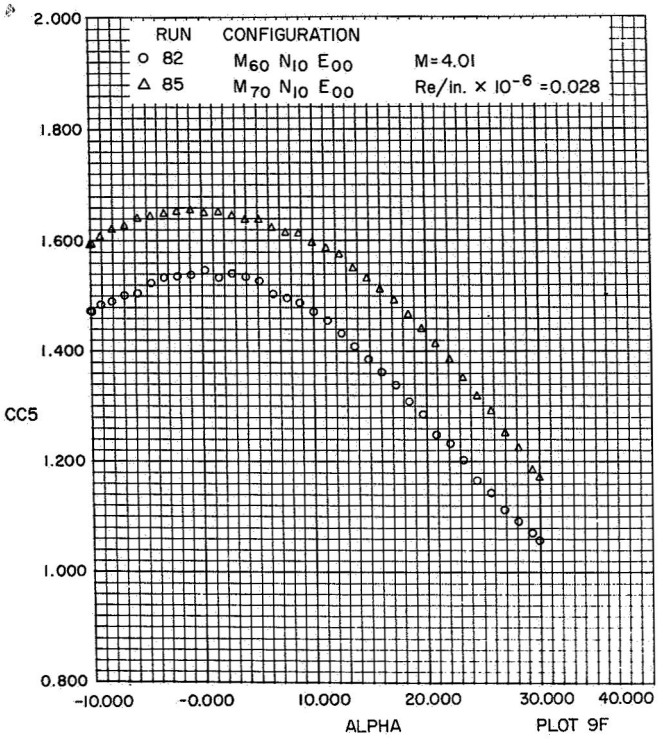
PLOT 9B

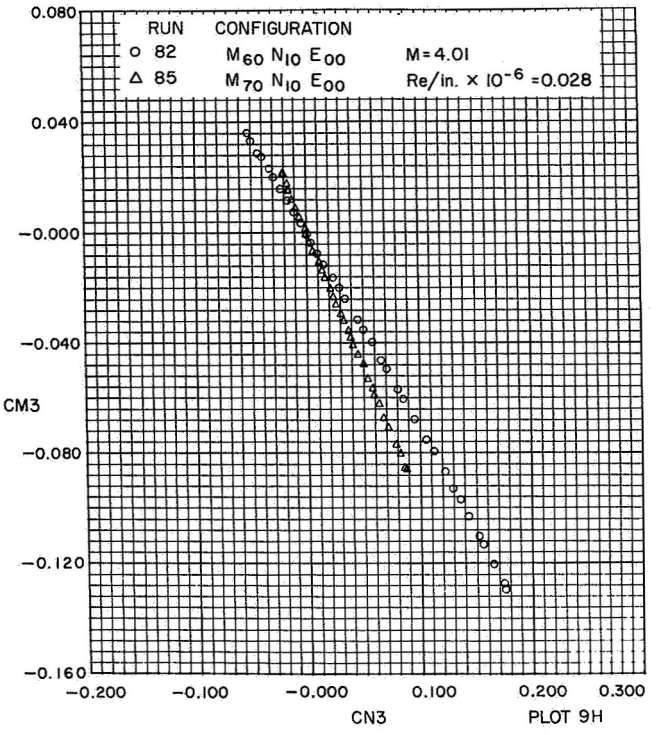


PLOT 9C



PLOT 9E


RUN CONFIGURATION
o 82 M60 N10 E00 M=4.01
Δ 85 M70 N10 E00 Re/in. x 10^-6 =0.028
2.000
1.800
1.600
1.400
1.200
1.000
0.800
CC5
-10.000
-0.000
10.000
20.000
30.000
40.000
ALPHA
PLOT 9F


RUN CONFIGURATION
o 82 M60 N10 E00 M=4.01
Δ 85 M70 N10 E00 Re/in. x 10^-6 =0.028
0.080
0.040
-0.000
-0.040
-0.080
-0.120
-0.160
CM3
-0.200
-0.100
-0.000
0.100
0.200
0.300
CN3
PLOT 9H